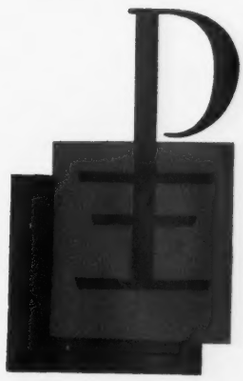

PRINTING EQUIPMENT ENGINEER

AUGUST • 1934

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES RESPONSIBLE FOR PRINTING PRODUCTION, EQUIPMENT AND SUPPLIES IN THE COMMERCIAL, MAGAZINE, PRIVATE PLANT AND DAILY NEWSPAPER FIELDS

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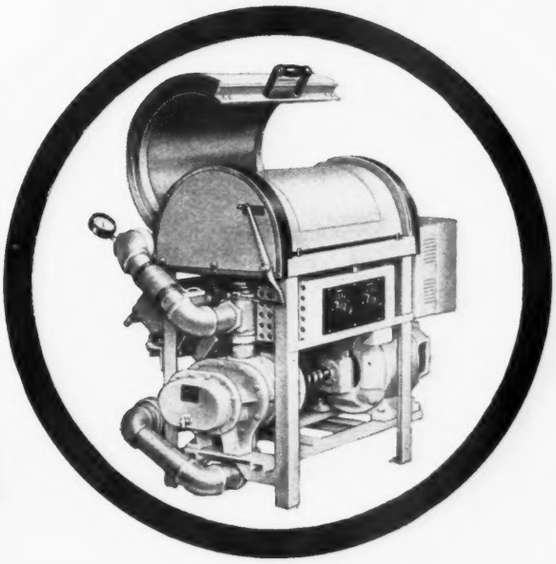

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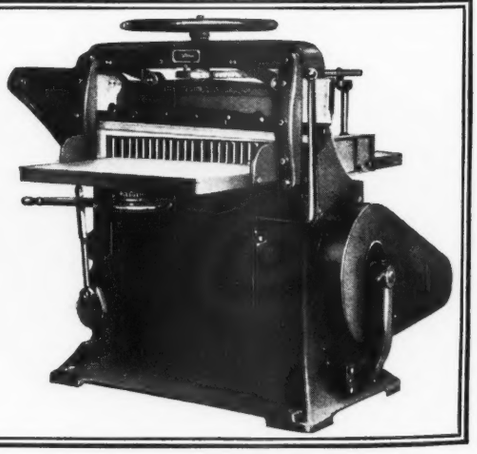

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Share Your Knowledge With Others

The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use.

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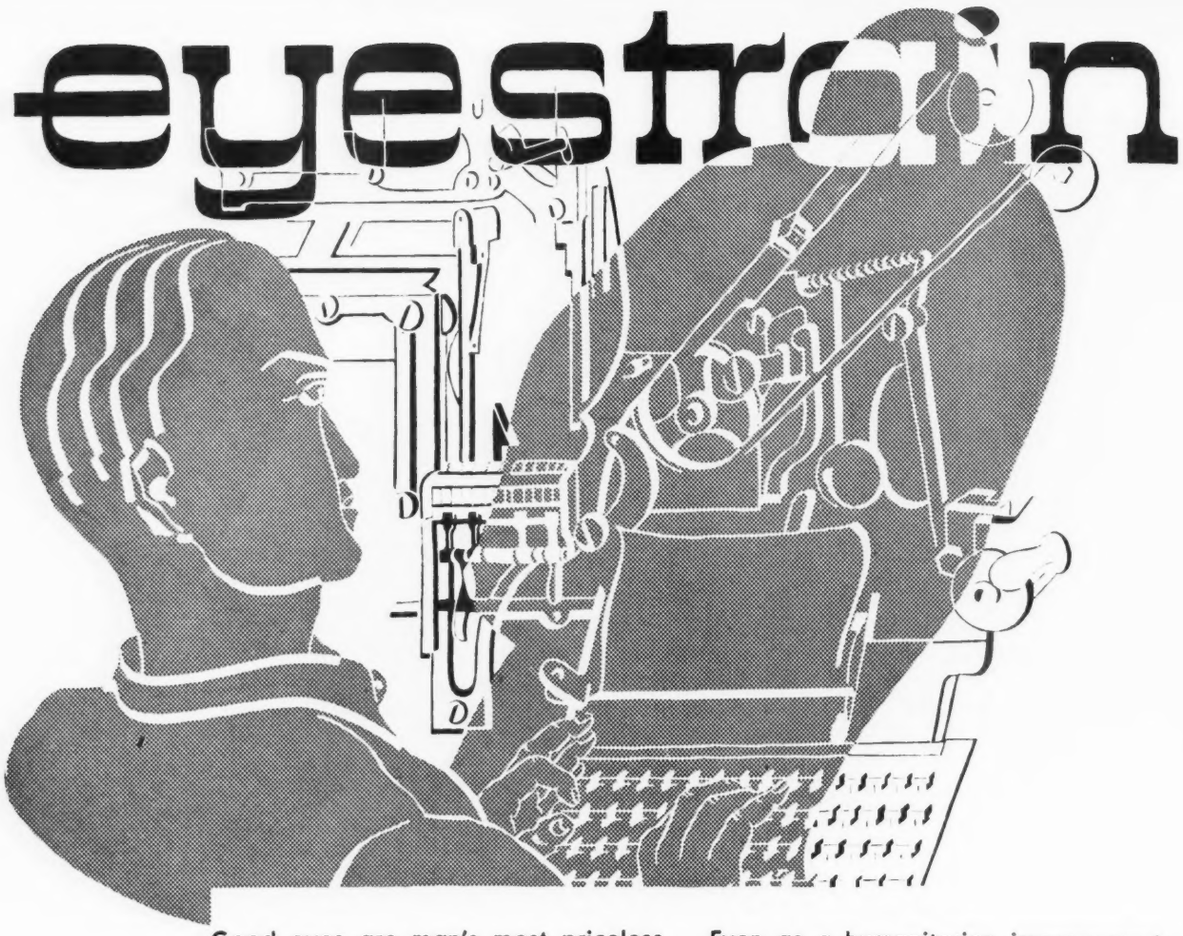
☐ *Purchasing Agent*

eyestrain



Good eyes are man's most priceless possession. Whenever possible he should avoid eyestrain because of its injurious effect on his health and productive efficiency.

Yet, hour after hour and year after year linecasting machine operators **needlessly strain their eyes** looking at each assembled line of ordinary brass matrices. Frequently they try to read the small reference characters stamped on these shining little pieces of brass.

But it is no longer necessary for operators to thus strain their eyes. By applying the Black and White process the glare of the brass is eliminated and reference characters become plainly visible.

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Printing
EQUIPMENT
Engineer

for August 1934

Line of Impression

By L. K. JOHNSON*

THE term, "Line of Periphery," as applied to letterpress work, is really an incorrect use of the word, especially if we accept the best authorities as to the meaning of the word. Webster's dictionary gives as definitions the following: Circumference, boundaries of real estate, or the surface of the human body! Certainly there can be no intelligible information conveyed by the use of a word which clearly indicates outside surface when, in fact, a point below the surface or within a circumference is being described.

It would seem to the writer that the term "line of impression" or "printing line" might be the more accurate term to use. Some have referred to it as the "pitch line." This term, however, is used in relation to roofs, etc., and to teeth in gears, and is no more understandable than "line of periphery." In fact, "pitch line" is an imaginary line representing the point where two cylinders would make contact at the same surface speed if fastened to the gears, which is the real line of periphery in fact and theory. Therefore, in view of the foregoing, the writer prefers the term "line of impression" and will use it henceforth.

It is hardly conceivable that a craftsman who is able to turn out creditable work, could be entirely ignorant of the exact meaning of the term. Yet, the writer is able to say that in his experience in the pressroom he has met several who had to have the matter explained, some of whom even then failed to grasp its mechanical significance and importance in press work.

The line of impression is of equal importance to good rollers, ink, stock, etc. Poor presswork, from whatever cause, is a fine advertisement of failure for any concern, and far too many times the press has had to stand the blame along with other well-known alibis. Much better presswork is obtained when the line of impression is maintained at the proper point of contact of printed sheet—printing surface. This point of contact has been found by experience to be the depth of one thin sheet of paper below the surface of the tympan or top sheet, with cylinder and bed bearers in proper adjustment.

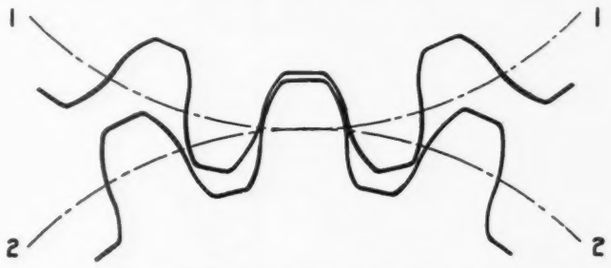


Fig. 1.—The expression "pitch line" when applied to the relative positions of the impression cylinder and bed of a press as it affects the printing quality really is a misnomer. In this diagram the lines 1-1 and 2-2 in the gear teeth represent an ideal line on which the pitch (or distance from center to center of any two adjacent teeth) is measured. The pitch line is also figured in a gear meshing with a rack as in a printing press. "Pitch line" in the same way is also spoken of as being an imaginary line representing the point where two cylinders would make contact at the same surface speed if fastened to the gears.

*Assistant Foreman in Charge of Illustration Section, Government Printing Office. Paper read before the Washington Club of Printing House Craftsmen.

Bed bearers are customarily set at 0.916 in., or 0.002 in. below type high. The packing should be a thin sheet of stock higher than the cylinder bearers as measured by a straight edge. The cylinder bearers are gauged from the bed to 0.001 in. lower than bed bearers or a clearance of only 0.915 in. to allow for "give" or "spring" in the press itself. These settings will give clear, sharp printing. (A peculiar thing in connection with variations in these settings is that the results in

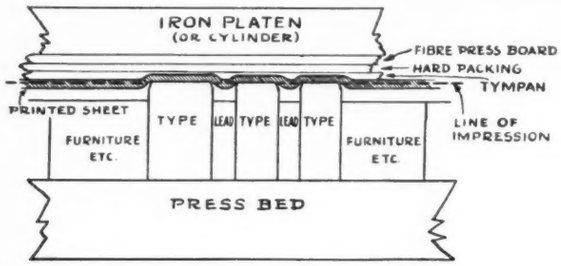


Fig. 2.—Cross-sectional diagram showing impression with regular makeready. Note that the sheet is forced into depressions in the tympan. The stroke line shows line of impression. The elements in this drawing have been distorted by the artist in order to make clear the writer's meaning. While this drawing represents a flat platen, the sheet would also be forced into the tympan on a cylinder press.

the appearance of the work are always the same—slur, worn plates, "muddy" presswork, packing, tearing or slipping, and so forth.)

These adjustments, while giving best results, do not produce absolutely perfect printing with regard to the line of impression. It can be seen readily that as the stock, under impression, is forced down into the depressions in the cylinder by the type it must be bent or curved over the shoulders of the type or printing sur-

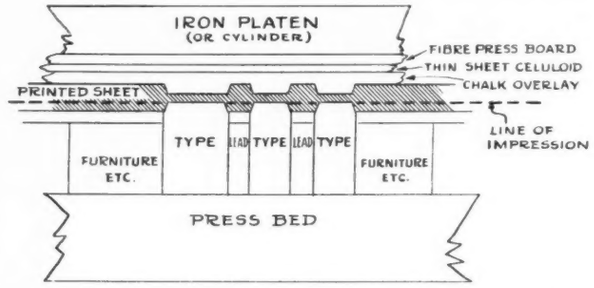


Fig. 3.—Showing impression equalized by special makeready. This diagram illustrates the Line of Impression on printing presses as defined by the writer. The elements represented in the diagram are purposely distorted to make the meaning clear. The line of impression as demonstrated here is raised to the center of the printed sheet. The cylinder is dressed with hard packing and proper makeready. Then, after the method described is applied, the paper stock passes between two practically unyielding surfaces, i. e., the chalk overlay (backed by celluloid) and the type. The stock, being the softer, receives impression upon face and back, forcing the line of impression to approximately the center of the sheet.

face, the result being a greater surface contact than if the stock only "kissed" the printing surface. For this reason a strong impression produces a bolder or "fatter" appearance of type than will a lighter impression.

Perfect printing, with the line of impression where it should be, on the surface of the sheet (without showing any impression on the back of the sheet) is obtainable only on one class of machines, *i. e.*, the offset or the lithographic press.

The writer, however, through a method of his own, has been able to raise the line of impression to the center of the printed sheet with a noticeable improvement when compared to a sheet printed by means of regular makeready. The method is hardly practical on chalk overlay. The result is practically two unyielding surfaces, between which the stock must pass, and being the softer, the stock receives impression equally upon face and back, forcing the line of impression to approximately the center of the sheet. The product by this method reduces the depth of the surface impression and is, by comparison, both an improvement and a proof of the effect of raising the line of impression. It may be done on platen or cylinder.

This method will be found very effective in printing bold face type on rough or unevenly surfaced stock. Care should be exercised, however, in reducing packing to allow for the sheet of celluloid and chalk overlay. Very good results may be obtained without the use of the celluloid, though it is doubtful if the line of impression will be raised above the level of the tympan.

In conclusion the writer has found that a simple test may be made on a cylinder press to determine the accuracy of impression settings previously referred to, as follows: Dress cylinder with flat packing. Place a small metal-mounted type-high cut (2 in. by 2 in.) previously inked, in the center of the bed without any lockup. With a sharp-pointed knife draw lines on the bed at the bottom of the cut, front and back. Then, with the form rollers thrown out, turn press over very carefully by hand, pulling an impression on the tympan. If the cut has not moved either way as shown by the lines, after this impression, the press should give satisfactory results. If, however, the cut is moved either forward or backward on the bed, suitable adjustments should then be made as indicated by the movement of the cut, which of course, indicates incorrect line of impression.

Color Standardization

[An Editorial]

Granting that there is no reasonable objection against the general idea of color ink standardization for printing color sections with especial reference to color advertisements in daily and weekly newspapers, *Printing* Equipment *Engineer* believes the time is ripe for an authoritative agency to get behind the project and push it to completion.

Some valuable experimenting has been done in the matter, but general recognition of the results attained has not been secured. This project, however, is one that should be settled through co-operative action. The co-operative medium would be the Joint Committee composed of representatives of the A.A.A.A., the A.N.P.A. mechanical department committee and representatives from the ink makers.

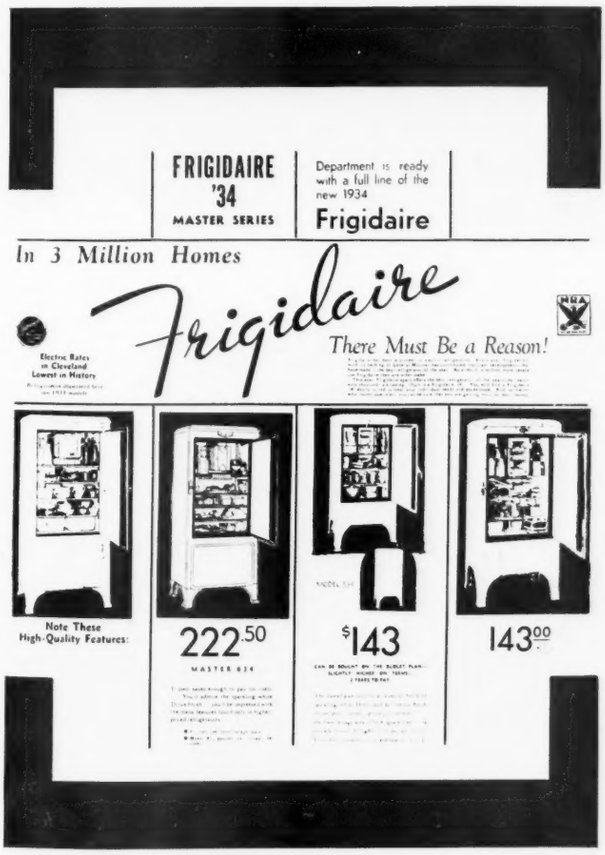
Through the good offices of Manager Wines and the Joint Committee we believe the matter of color ink

standardization could be investigated and refined. Varying theories as to what really constitutes standardization could be tested and tried by the process of elimination. Any plan could be presented to the committee and if it passed the sharp-shooting experts composing its membership we are sure the result would be the greatest benefit to the greatest number.

If the Joint Committee members were to deliberate with representatives of the ink makers who would serve in a co-operative and advisory capacity, it doesn't seem that arrival at definite conclusions is impossible. In fact, we rather suspect that the committee's recommendations would settle the problem to the satisfaction of advertiser, publisher, agency production man, the ink maker and the mechanical executive.

The selection of colors which might be approved ultimately, we are sure, would be acceptable to the industry simply because of the force of authority behind the committee membership since it is composed of representatives of all the parties affected.

The Joint Committee in the past has issued some authoritative and valuable technical bulletins on newspaper printing, chief among which are "Electros vs. Mats," "Etching Depth of Halftones," "The Complexities of Newspaper Printing," and also co-operated in the I. A. E. bulletin on "Standardization of Electrotypes." There isn't any doubt but what this committee would handle the color ink standardization problem just as efficiently.



Newspaper "Bleed" Pages

Now An Accomplished Fact — Mechanical Executives Work Out Several Methods to Obtain Unusual Effects

By MAC SINCLAIR

SEVERAL mechanical executives have responded to the suggestion made by George W. Speyer, production manager of the J. Walter Thompson Co., Chicago, at the St. Louis A. N. P. A. Mechanical Conference, that some experimenting be done to see if it would be possible to print "bleed" page advertisements in regular editions of newspapers.

Chief among those who have worked out methods for doing this are George Fuller and Walter Ogden, of the Cleveland *Press;* Orel M. Harper, mechanical superintendent of the Tulsa (Okla.) *World;* K. L. Gregg, press superintendent of the San Diego (Calif.) *Union and Tribune;* and Frederick Forstall, mechanical superintendent of the New Orleans *Times-Picayune.* The first plan to be submitted to *Printing* EQUIPMENT *Engineer* was developed by Messrs. Fuller and Ogden, but it seems that the San Diego *Union and Tribune* is the first paper to run a "bleed trim" page in any part of the country, the page shown in Fig. 5, having been printed in the regular edition of the *Union* on Sunday, July 8.

Just at the present time no one is prepared to say to what extent advertisers will take advantage of the possibilities of "bleed" page advertisements. So far as the ENGINEER is concerned, it is not known what premium generally will be placed on this type of advertising. Whether publishers will be willing to accept space of less than page size for "bleed trim" advertisements remains to be seen. Another interesting angle will be the premium to be placed on the running of advertisements in black and one or more colors.

In looking at the various specimens submitted it should be kept in mind that these efforts are more or

Fig. 1.—Reproduction of a black-and-white "bleed" page. The method for printing was devised by George Fuller, superintendent of stereotyping, and Walter Ogden, pressroom superintendent, of the Cleveland Press. *The advertisement was printed like a color page. The body portion (excepting the ben day screen) was cast as a separate plate. By referring to Fig. 4, it will be seen that the top and bottom parts of the page were printed from one plate. The plate is registered on the press in such a way that the folder cuts in the center of the ben day screen so that the plate prints the bottom of one page and at the same time the top of the succeeding page.*

less experimental in nature and that certain limitations with respect to design prevail. Naturally, the first efforts may appear to be somewhat crude, but as the work of refinement proceeds a greater variety of designs suitable for the proper effects will be provided. The artist and the photoengraver will be very potent

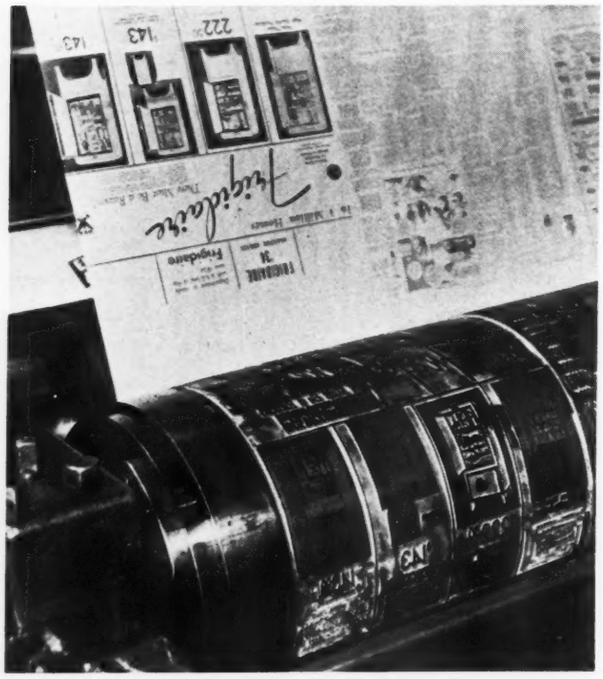


Fig. 2.—The plate on the press cylinder has just printed the first printing or "black" portion of the "bleed" page which is shown on the web above the plate in the plant of the Cleveland Press.

factors in creating appropriate art work to obtain the best effects.

The method used for printing "bleed" page advertisements by George Fuller and Walter Ogden of the Cleveland *Press* consists of using two forms from which two plates are cast. The black-and-white page shown in Fig. *1*, is run the same as for a color page.

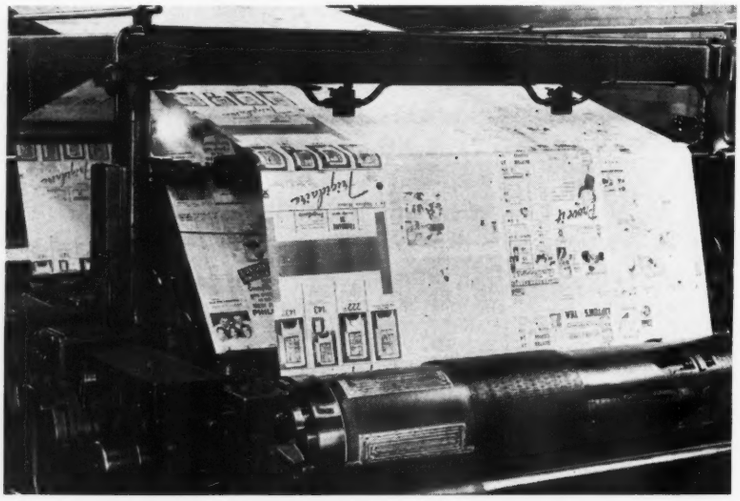


Fig. 3.—This photograph, taken in the Cleveland Press *pressroom, shows the "bleed" page unit on the plate cylinder. The router marks in the plate are plainly visible on either side of the unit. On the web, above the "bleed" plate, is shown the second printing interposed between the first printing of the body of the advertisement shown in Fig. 2. The first printing of the advertisement can be seen on the web at the left of this picture.*

The "bleed" page or run-off is obtained by casting a plate as is shown in Fig. *4*. The measurements of the zinc plate are such that when the plate is registered on the press the folder cuts in the center of the pattern screen as represented by the dotted line, *i. e.*, the screen on either side of the dotted line prints the top of one page and the bottom of the following page and the folder divides the two pages at the intersection marked by the dotted line.

Due to fluctuations of the folder cut-off which cannot be avoided, a gap of some kind should be provided in the page. In the development of patterns for "bleed"

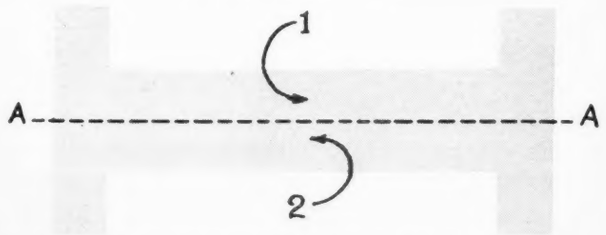


Fig. 4.—The Fuller-Ogden "Bleed" Page Unit. This is a reproduction of the pattern plate which was employed to print the "bleed" page shown in minature in Fig. 1, by George Fuller and Walter Ogden of the Cleveland Press. *The* Press *is a 12-em, 8-column paper. The ben day screen cut measures 17½ in. wide and the space from top to bottom is 10½ in. The center part of the design, or the bar, measures 4¼ in.*

The plate on which this design was cast is to be handled as a separate color, whether run in color or in black. It is registered on the press cylinder in such position that the folder cuts at the intersection represented by the line AA. *Thus the top section* 1, *of the cut prints the bottom "bleed" of one page and at the same time the lower section,* 2, *prints the "bleed" for the top of another page.*

With this basic unit plate from which to work it is intended that many variations in the design of newspaper pages may be created. It is the thought of Messrs. Fuller and Ogden that a gap in the "bleed" design, should be provided for the center part of the page, at either side margin, so that fluctuations in the folder cut-off will be taken care of automatically. Otherwise, various designs and lettering (either black or in relief) may be put in the ben day screen which will print fairly close to the top and bottom margins or to the side margins.

page advertisements this fluctuation should be taken into consideration by the layout man or designer.

In preparing the forms, the lockup and side bars are removed from the chase. The advertisement is set up of proper width and depth according to the layout which is furnished.

In preparing the form for the "bleed" pattern (zinc etching with ben day pattern, Fig. *4)* the locking and side bars are removed from the chase and stereo base is placed within the chase. The base in this case is 17½ in. wide for a 12-em, 8-column page. The chase locking screws can be turned up sufficiently to hold the base in the chase while shifting from truck to mat roller table. A strip of zinc ¼ in. wide is placed down the locking bar side of the chase to provide a bolster for the mat. The zinc etching described in Fig. *4*, is placed about midway of the form.

In the casting operation, the plates are cast with a double-page ring which provides for the margin on the inside edge of the plate. In other words, the overhang prints the inside margin. The cutting saw in the Autoplate is raised ½

in., to trim the plate so as to provide for the outside margin of the page.

This scheme is suitable only for straight press runs and is not adaptable to collect runs.

SAN DIEGO "UNION" FIRST TO PRINT "BLEED" PAGE

K. L. Gregg, press superintendent of the San Diego (Calif.) *Union,* is probably the first newspaper mechanical executive to print a "bleed" page in a regular edition of any newspaper in the country.

Mr. Gregg describes for readers of *Printing* EQUIPMENT *Engineer* how the problem was approached in the *Union* plant as follows:

"The color scheme of the 'bleed' page (Fig. 5) in the San Diego *Union* of July 8 was very simple, but we proved to our own satisfaction that it is practical to print advertisements in this manner.

"The main idea was to determine just how much trouble would develop with our plan to keep away from trolley and nipping roller marks. We had better success than we expected.

"The black form was made up as a regular 7-column form and cast in the same way. The form for the color plates was made up wide enough to cover the margins and a double-truck ring gauge used in the casting box so that the 'bleed' plates could be put on the cylinders as one-half of a double truck.

"The yellow plate was cast from the same mat, but as a regular 7-column plate. We used red ink on all four margins but it was not necessary, and we suggest that advertisements be laid out with the idea of using different colors for the top and bottom of the page, in case all four colors are desired,

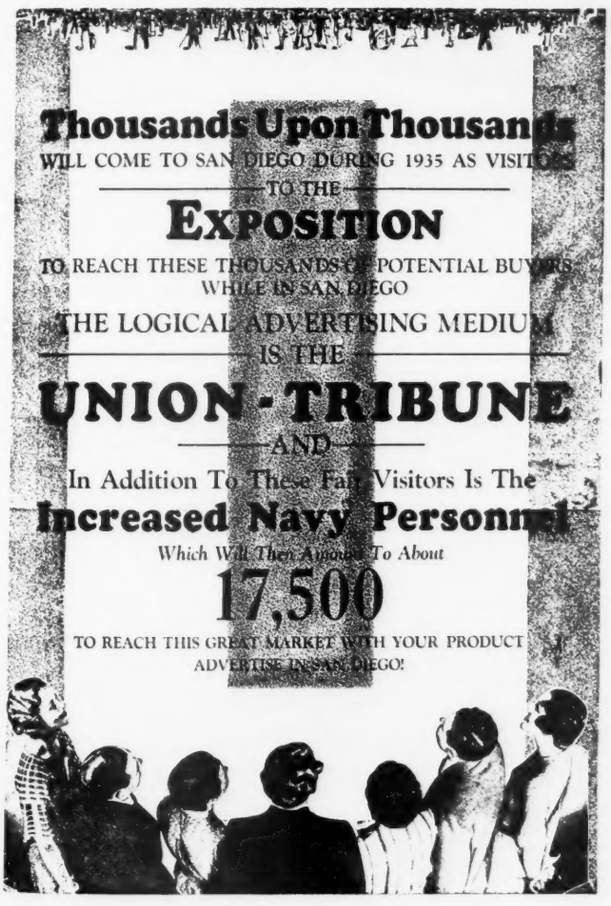

Thousands Upon Thousands
WILL COME TO SAN DIEGO DURING 1935 AS VISITORS
TO THE
EXPOSITION
TO REACH THESE THOUSANDS OF POTENTIAL BUYERS
WHILE IN SAN DIEGO
THE LOGICAL ADVERTISING MEDIUM
IS THE
UNION-TRIBUNE
AND
In Addition To These Fair Visitors Is The
Increased Navy Personnel
Which Will Then Amount To About
17,500
TO REACH THIS GREAT MARKET WITH YOUR PRODUCT
ADVERTISE IN SAN DIEGO!

Fig. 5.—K. L. Gregg, press superintendent of the San Diego (Calif.) Union, *has sent to the* ENGINEER *copies of a "bleed" page run in black and two colors. This is a reproduction of what is probably the first "bleed" page to be run in two colors and black in a regular edition of any newspaper. The method for printing the page was worked out and run in the July 8 issue of the* Union. *It appeared on page 8 of the color section. The outside border was printed in red ink, the center panel in yellow ink and the type composition was printed in black. The* Union *is a 7-column paper.*

PROVED-
by millions of miles of testing by engineers
PROVED-
in the hands of hundreds of thousands of owners
Now we ask you to
Drive it only 5 miles
and you'll never be satisfied with any other low-priced car
SAVE WITH A CHEVROLET SIX
TOP PLATE "A" DECK
BOTTOM PLATE "B" DECK

Fig. 6.—Orel M. Harper, mechanical superintendent of the Tulsa (Okla.) Daily World, *submits this specimen "bleed" page. Mr. Harper has also printed "bleed" page advertisements in two colors and black, which are divided in the same manner as this reproduction.*

This cut shows how the advertisement was divided in order to cast two plates for printing on two decks of the press. The top plate was printed on "A" press deck and the bottom plate was printed on "B" press deck. Mr. Harper states that in order to jump the slot in the blanket cylinder, the cylinders which carried the top portion of the page were retarded one gear tooth. Staggering the cylinders, however, is not necessary when the press is equipped with sufficient compensating rollers to control the sheet.

otherwise the use of an extra cylinder (or five printings in all) will be required in order to obtain the four colors.

"This advertisement was printed in a collect run, which means ordinarily only one plate for each color, but in this case two plates were cast from the red mat, then about 8 in. of the lower part of one plate and about 11 in. of the upper part of the other plate were routed off. These two plates were then put on two different cylinders (the margin bars having been previously removed) and one plate was pushed up to the head the proper distance, and the other plate was pushed down to the tail.

"A dark streak across the two side panels, a little below the center of the page designates in the accompanying reproduction (Fig. 5), where the print from the two red plates overlapped. There was no particular reason to divide the red plates at that point. One plate could be the regular length and the other just deep enough to cover the balance of the

white space. It would all depend upon the nature of the layout.

"It is a simple matter to turn the blanket cylinders half way over in case the openings in the cylinders happen to come where the margin printing is required, but in case of a straight run (two off) the cylinder openings cannot be turned out of the way. Consequently, it will be necessary to use only three colors for the advertisement as well as the other pages running alongside the advertisement, or use an extra cylinder in order to obtain four colors. In either case, it will be necessary to turn one cylinder one-quarter way around so that the plates on that cylinder will at least take care of the top and bottom margins."

TULSA "DAILY WORLD" METHOD

Orel M. Harper, mechanical superintendent of the Tulsa (Okla.) *Daily World*, in discussing how experiments were carried on in his plant with respect to "bleed" page printing states:

"Printing 'bled edges' is the simple operation of covering the entire sheet with printed matter, allowing no margins. This we accomplished by using two plates on the press instead of one. This, of course, necessitates the use of two decks of the press, which is more than is normally used in the publication of an edition.

"In the composing room we set the advertisement in a double-page chase, taking out the gutter strip on one side and the outside lock-up wedge on the other side, as well as the foot stick, to allow plenty of room to set the form wide enough and long enough so that the printed page would cover the entire sheet, allowing for the usual dry mat shrinkage. Instead of molding this page as one unit, we separated it at approximately the center and made two mats and cast two separate plates, one representing the top of the advertisement and the other the bottom of the advertisement. The plates were then put on the press, the bottom half-plate on one deck and the top half-plate on another deck, and printed in the same manner that you would print a two-color job, registering the advertisement where the two forms came together in the center of the page.

"In order to jump the slot in the blanket cylinder we retarded the cylinders which carried the top half of the page, one gear tooth. However, staggering the cylinders in this manner is not necessary when you have sufficient compensating rollers to control the sheet.

"In our color advertisements we used two colors and black. The top margins and about half way down the sides were printed with blue ink and the bottom and sides up to meet the blue, was in yellow ink. These two colors were printed, one on the 'A' deck, registering with the other plate on 'B' deck. The spread was controlled by compensating rollers only. On a third deck in the regular position, we overprinted a type page in black.

"The whole process is simple and about the only difference in printing 'bled-edge' and ordinary size pages is in the marginal requirements and registering the forms the same as is done in color work."

A. T. F. S. C. Promotions'

Fred C. Cole, now sales promotion executive, American Type Founders Sales Corporation, will head a newly organized miscellaneous merchandising department which will centralize sales direction of counter goods, store and counter displays, at 22 branch stores and 3 dealers in 23 cities.

B. C. Broyles, Atlanta manager, has succeeded Roy O. Shadinger as Los Angeles branch manager.

Newspaper Color Simplification

Advantages to Newspapers Given by Writer Who Cites Benefits of Standardization in the Magazine Field

By BRUCE BERCKMANS*

AT THE Mechanical Conference of the A. N. P. A. held in St. Louis during the first week of June this year we presented two eight-page sections of various four-color advertisements all of which had been run in newspapers under usual printing conditions. Our first thought in doing so was to stimulate some concrete action toward the simplification of colors used for four-color newspaper printing as distinguished from the printing of advertisements with only one color in addition to black. In order to satisfy those who insist that no such action is taken without a selfish motive, I will gladly admit that we had the very definite ulterior motive of increasing the consumption of four-color newspaper colors.

There is no question but that the results achieved several years ago by standardizing process colors used in general magazines could have been achieved in newspapers when four-color printing was first inaugurated in the newspaper field. Apparently, however, definite progress will not be made until tangible, visual evidence of results obtainable with a limited range of colors, is placed in the hands of advertisers, agencies, and newspapers.

In view of the almost infinite number of variables which enter into the printing process, it seems to me that the standardization or simplification of colors is a first step toward uniformity of reproduction which can be achieved with a minimum of effort.

In the preparation of material submitted care was exercised to preserve as identical as possible the conditions under which each pair of reproductions was printed. Mats were molded from original plates of electrotypes furnished by advertising agencies. Two plates were cast from each mat. Both reproductions of each subject were printed on the same impression, once with colors originally specified by the advertiser and the second time with three colors which were selected as satisfactory for fulfilling the requirements of the advertiser. It should be stressed that the same three colors were used to print one of the reproductions of each advertisement carried.

The individual colors specified in the progressives of each subject were exactly matched and were designated "special colors." The three colors selected to print each advertisement the second time were designated "limited colors." Perhaps this designation was misleading as the term "universal" would probably more closely define the function of the limited range of shades. In the preparation of these advertising sec-

*Manager, Ink Division, J. M. Huber, Inc., New York, New York.

tions we had hoped to carry the same set of reproductions on first and second impression printed both with the "special colors" and with the "limited" range of colors. This would have shown a good comparison between the appearance of the same subject when printed on the two different impressions. Owing to the wealth of material supplied us by advertising agencies which were good enough to cooperate with us, this could not be accomplished satisfactorily as the printing was hurried in order to be ready for the Mechanical Conference. It is our intention to carry out a more extensive printing, not only with full makeready using hard packing as was done in the present instance but also on soft packing with no makeready. It should be borne in mind that in the preparation of the exhibits submitted to the Mechanical Conference, no change whatsoever was made in original plates in order to adapt them for the limited range of colors. We believe greater modification in printed effect and adaptation of subject matter to a simplified range of colors can be effected through changes in plates, such as modification of benday screens, and halftone screens, rather than by variations in color formulae. In selecting the three colors designated as limited colors we had no thought of placing restrictions on

COLOR STANDARDIZATION

The writer, Bruce Berckmans, will explain in a series of articles, the technicalities, the problems to be met and the benefits which may accrue to the newspaper publishing industry as the result of standardization of color printing inks. For several years now standardized inks have been used universally with benefit to the magazine publishing industry. Mr. Berckmans, like others who are interested in the subject, has participated in recent experimental work.

During a brief talk at the St. Louis Mechanical Conference he stated that as a matter of self-interest, the newspaper industry, the ink industry, the advertising agencies and the advertisers should co-operate in the matter.—EDITOR.

either the modification of these shades themselves or in respect to additions to the range of shades selected. There are many who feel that three colors are insufficient to reproduce satisfactorily the wide range of colors demanded by advertisers and art departments of advertising agencies. I will agree that at present such is the case. However, knowing that it is far simpler to include additional colors than to eliminate colors once adopted, I felt it wise to print our reproductions with the irreducible minimum number of colors required for four-color work.

It has been brought to my attention that the terms "ink," "color" and "shade" are frequently regarded as synonymous. This is obviously incorrect. Any simplified or limited range of shades of colors can be matched in shade by any reputable and well-equipped ink manufacturer. Personally, I distinguish between the terms "ink" and "color" by considering that an "ink" is the product of a particular manufacturer whereas any "color" might be produced by any manufacturer.

Probably the lack of progress which has been made to date is due to the desire of advertising agencies to please their clients and of the ink manufacturers to satisfy, in turn, the printers and publishers. Special service, whatever its nature, commands a premium, whether it consists of special art work or in the compounding of special colors in small quantities. It is all very well for adverisers to state their willingness to pay a premium. The fact remains that over emphasis has been placed on the color consciousness or discrimination of the buying public.

Mr. Motorist or Mrs. Housewife may remember "the gas from the red pump," or "the soap in the blue box." I defy anyone to prove that either of them can pick the precise shade of red or blue or of any other color from memory. The ink industry knows that it takes months to train a good color matcher and that a "natural" is almost never discovered. Even the best color matchers make mistakes, as our printing friends will testify. Why then should the "shade-discrimination" of

LIKES OUR JUNE ISSUE

Printing Equipment Engineer,
Cleveland, Ohio.

Gentlemen: I have before me Volume 48, Number 3, *Printing* EQUIPMENT *Engineer* and I must say that not in a long time have I seen a better edited publication.

I congratulate you on the typographical and printing excellence and surely the advertising pages are indicative of an alert and up and coming group of manufacturers.

More and more power to you.

Cordially,
CARROLL B. MERRITT, *Gen. Mgr.*,
Charles Scribner's Sons.
597 Fifth Avenue, New York.

John Public be considered so extraordinarily keen and all-determinate? This is especially puzzling in the face of the many advantages to be derived from the standardization or simplification of newspaper colors.

I will grant that there is somewhat greater potential profit for the advertising agencies, printers, and ink makers in doing special work. There are undoubtedly manufacturers and service organizations that have profited by satisfying "fussy buyers" with "something special" at fancy prices. But isn't it shortsighted to strive for this extra profit on a limited volume of special work when a greater volume would be available if color advertising were brought within the financial range of the many who are not now using color?

There are almost always obstructionists who point out that no standardization plan has been 100% perfect. There are even some who think that standardization or simplification means the use of the same ink regardless of the method of printing or variety of surfaces on which ink is to be applied. To them let me point out that we are concerned at present only with the simplification of *shades* of color inks to be used in reproducing four-color advertisements in newspapers.

In all there are available only approximately five hundred raw materials for making printing ink. While the bulk of these are various pigments and vehicles, relatively few are suitable for inks to be used on newsprint type of stock or on high-speed rotary presses. The artist working with crayon and water or oil colors has a wider range of shades than the medium in which he expects his work to be reproduced. Economies of time and effort are available to the artists and advertising agencies who limit their selection of colors to those most adapted to newspaper printing.

Many publishers and printers are reluctant to use special colors when by so doing they are jeopardizing the appearance of some other feature they value. So much so, that I have known several instances where color advertising with its added revenue was definitely refused because the specified

colors would have altered the appearance of comic or magazine sections.

The printer using special colors in addition to his regular shades incurs waste due to ink left over from runs and the greater amount of ink which clings in small containers. Greater labor cost also is involved in the handling of special shades in the printing plant.

The ink manufacturer must use nearly the same amount of power and labor to produce small quantities of special inks as he does to run large-volume batches. Any slightly lesser power cost involved in the production of smaller batches is more than offset by the additional labor required to produce, pack and distribute the greater number of smaller lots of inks. Moreover the expenses involved in sales competition and special matching are no small factor.

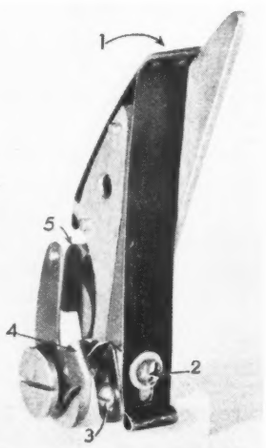
While to some these factors of economy may appear small individually, when applied in aggregate to four-color advertising rates, they represent a considerable saving which could make four-color advertising attractive to more advertisers.

These considerations among others led to the standardization some years ago of process colors used in general magazines. All concerned will agree that the simplification of process colors effected at that time has been a boon to the printing, advertising and ink industries. Despite the success of the plan adopted for general magazines, little or no progress has been made to date in the newspaper field. I understand that efforts are now being made to show the variation in printed effect that can be accomplished by modification of benday and halftone screens. Until this work is completed the definite selection of a limited number of shades cannot be accomplished.

In forthcoming articles I shall endeavor to submit a plan of simplification and to discuss the modifications which can be effected by the engraver as well as the individual characteristics of colors most adapted to newspaper printing.

Adjustable Assembler Chute Rail

Walter Droski, chief composing room machinist of the Grand Rapids *Press*, has devised a substitute rail for the regular chute rail spring in linotype assemblers which is adjustable so that the upper end of the one-piece rail *1* can be moved as closely as possible to the matrix delivery belt.



The substitute rail spring is made from 0.015 in. steel and is spring tempered. Where the fitting of the rail spring is not done in such a way as to close in the gap between the upper ends of the spring and the belt, thin matrices may wedge in the gap and clog matrix delivery. In Mr. Droski's development, the rail *1* can be adjusted close to the matrix belt by means of a slotted support which is movable up or down after loosening the holding screw *2*.

A variation in the means of positioning the assembler chute cover closely to the assembling elevator gate is also provided. The spring clip has a notched right-angle extension *4* which engages a slotted adjusting piece. The adjusting piece is moved to accomplish the adjustment which is held permanently by the screw *3*.

At *5* is shown an experimental three-prong red fibre assembler star.

New Cooling Blower

By D. L. Anderon*

An air blower for cooling molds on line-casting machines is announced by Intertype Corporation. This blower directs a current of air over the entire face of the mold disk as well as against the mold that is in use. The results claimed for this new device are: (1) It cools the mold itself; (2) it cools the area in front of the molds and

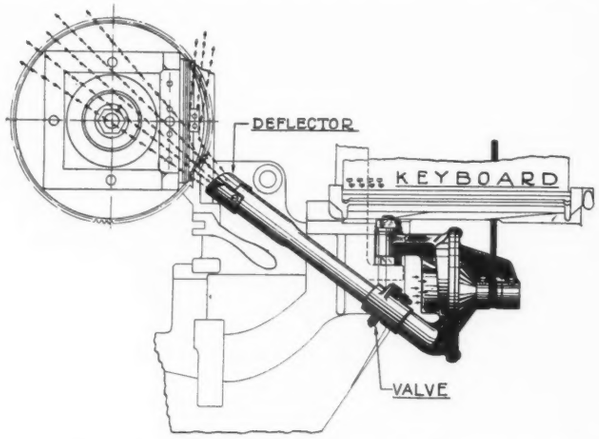


Fig. 1.—Diagrammatic front view of the machine, with air blower attached to column flange, showing how the air is taken into the blower housing and expelled through the end of a tube.

the mold disk; (3) It regulates the quantity of air to suit requirements.

The construction consists of a blower housing of snail-shell design, which is conducive to building up both volume

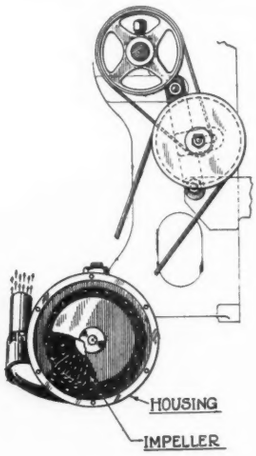


Fig. 2.—Side elevation of mold-cooling blower showing action of the impeller. The device is driven by a pulley on the intermediate shaft. The pulley, in turn, is connected by a belt running to the motor.

and speed in the air current. The impeller is of the paddle-wheel type, which permits simplicity of design.

After the air has been expelled from the blower housing, it enters a tube in which a valve is mounted. The valve permits regulation of the quantity of air to suit the size of the slug and is mounted within convenient reach of the operator. After the air has passed the valve, it is permitted to flow freely through the tube which is long enough to reach within a short distance of the mold disk. On the end of the tube is mounted a deflector which regulates the direction of the air to suit the length of the slug.

The tube is mounted in a manner that causes part of the air to strike the mold directly, and part of it to sweep in

*Assistant Chief Engineer, Intertype Corporation, Brooklyn, N. Y.

front of the mold disk. The air which strikes the mold cools it in the ejecting position, while the air that sweeps in front of the mold disk, expels the warm air surrounding it, thereby cooling the entire disk.

The location of the blower, which can be applied to any Intertype, is beneath and slightly back of the keyboard, and the design is so compact that it does not interfere with the operator. It is held in position on top of the column flange by a special bolt which serves the double purpose of holding the column as well as the blower. The blower can be removed without loosening the bolt.

Barch Celebrates Anniversary

ON THURSDAY, July 12, Harry L. Barch, superintendent of the composing room, Illinois *State Register*, celebrated his silver anniversary as head of the composing department by acting as host to the boys at an informal party, at which time he was presented with a small token of appreciation from the men with whom he works.

Some 36 years ago H. L. Barch, then a young man, began his apprenticeship in the composing room of The Illinois

Harry L. Barch Is Increasingly Useful, Having Been Elected Secretary of the Illinois Composing Room Executives' Association.

State Register, served the required time and after becoming a journeyman worked for a number of years as makeup man. Showing unusual ability for organizing the work at hand, his meritorious service was rewarded by the business management on July 12, 1909, when he was elevated to the position of superintendent of the composing room.

He is always interested in any affairs pertaining to improvement of composing room work, and was recently elected secretary of the Illinois Composing Room Executives' Association, in which organization he has been quite active since its organization several years ago.

V. Y. Dallman, editor of the *State Register* had this to say in a recent issue of that paper:

> To Harry Barch we lift our cheers!
> His smiles have gladdened passing years!
> With this big extra from our hearts
> We go to press for Harry Barch!

A. T. F. S. C. Promotions

John Collins, for seventeen years production engineer of the American Type Founders Sales Corporation, became chief engineer on July 16. He is known as one of the most capable engineers in the printing trade.

Edgar A. Fowler, for twelve years salesman of St. Louis branch, with headquarters in Memphis, has been appointed Atlanta branch manager.

New Printing Equipment

Tandem Printing Press, Press Bearings, a Roller and Hand-ee Grinder Among Late Developments in Field

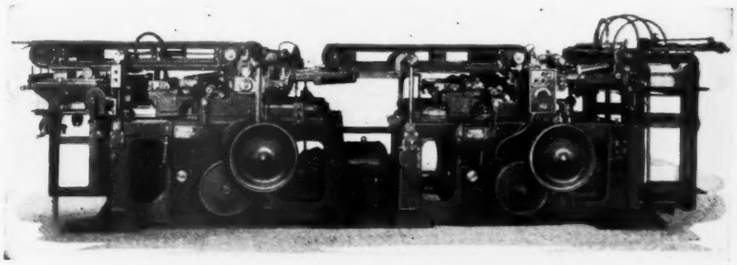
By STAFF WRITER

The Miehle Horizontal Two-Color Press built in tandem by The Miehle Printing Press & Mfg. Co., 14th St. and So. Damen Ave., Chicago, Ill., is offered to the printing industry to meet the demand for a small two-color press for handling sheet sizes up to 22 in. by 28 in.

The Miehle Company has been building two-color presses of standard design for many years and offers this 22 in. by 28 in. size of press for the general run of color work requiring a small machine.

Due to its positive and continuous chain delivery, together with a novel method of transferring the sheet from one unit to the other, it is possible to couple two Miehle Horizontal single-color presses in tandem with a single drive so that they operate in unison. The reciprocating motion of the beds is in opposite directions. This serves as a counterbalance and results in very smooth action.

The following advantages are claimed by the Miehle Company for its Horizontal Tandem Press: (1) The same speed is attained as that of a single-color machine, namely, 3600 per hour; (2) The tandem design allows much more time between impressions; (3) Make-ready is much simplified and can be done just as quickly and efficiently as on a single-color machine, since the units may be made ready at the same time, or each unit may be made ready individually; (4) A printer usually purchases a small two-color press because he has a sufficient amount of work to keep it busy. In the course of time the character of his work may change so that he has less multicolor work than before with the result that he has lost the actual need for a two-color machine. If such a condition would arise with the owner of a Miehle Horizontal Tandem, the press could be converted into two single-color machines.



View of Miehle Horizontal Tandem Press, 22 in. by 28 in. size. Sheets from the first unit are delivered to a forwarding table on the second unit. The two presses are operated in unison with a line shaft drive geared to a single driving motor.

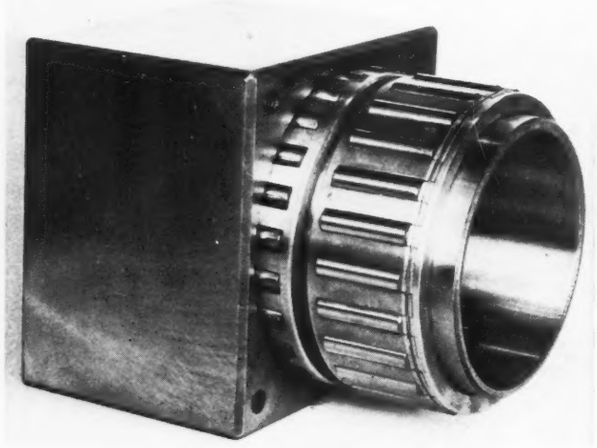
Press Bearings by Bantam

The Bantam Ball Bearing Company, South Bend, Ind., has ready for distribution a catalog devoted exclusively to printing press roller bearings which is illustrated with photographs and line drawings showing several types of bearings developed by Bantam engineers to meet special conditions, including a two-row taper roller bearing with wide inner races and a one-piece cup, chrome plated, which on the floating end allows the race to act as a piston in a cylinder to facilitate the sliding action necessary to take care of expansion and contraction.

A square box bearing is shown which replaces present bronze boxes without changing the frame. The outer race is square with drilled and tapped holes for fastening the end caps or lubricant seals. These are now used as part of the original equipment to eliminate changing designs, patterns, etc., but their chief appeal is to those having presses of the older type which are to be changed over to anti-friction bearings with the fewest changes to surrounding parts.

A Bantam reciprocating ball bearing is shown which allows reciprocation to take place while rotation occurs and is in use particularly on inking rollers in the printing press field. The balls in the cage are staggered on several pitch circles so as to prevent wearing grooves in the shaft should rotation only occur for long periods of time.

The standard cage type of bearing used on Plate Cylinders and Impression Cylinders is made with two cages per bearing and one more roller in one cage than in the other

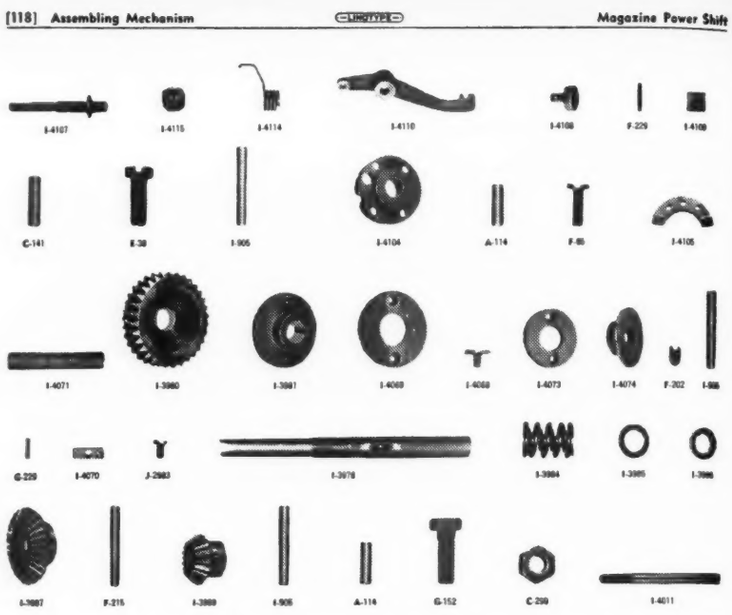


cage, thus giving a hunting tooth effect to break up the synchronized vibration of cylinders at high speed. Because each cage operates entirely independently of the other bearing, fight or twist is prevented.

Further detailed information may be secured by writing the Bantam Ball Bearing Company, South Bend, Ind.

New Linotype Parts Catalog

A new parts and supplies catalog (No. 30) for Models 8, 14, 25 and 26 Linotypes is now being distributed by the Mergenthaler Linotype Company to users of those models. The book has many unusual features and differs in almost every respect from any of its predecessors. It contains 500 pages, reproductions of 6,000 photographs and 70 assembly drawings. It covers all changes and developments from the first Model 8 of 1911 to the present. It is more "lifelike," as parts are photographed to scale. It is convenient to use, as parts which go together are shown together. Changes in a given part are shown alonside each other. Screws, dowels, nuts, washers are placed with the parts into which they assemble. Directly opposite each illustrated page is a descriptive page giving the necessary names, dimensions and so on. There are two indices—one by machine divisions, the other by individual parts. A full line of tools and supplies is included.



Specimen page (greatly reduced) taken from Mergenthaler Linotype Company's new Parts and Supplies Catalog. The book contains 500 pages and carries reproductions of 6000 photographs, each of which is suitably indexed for ready reference and identification.

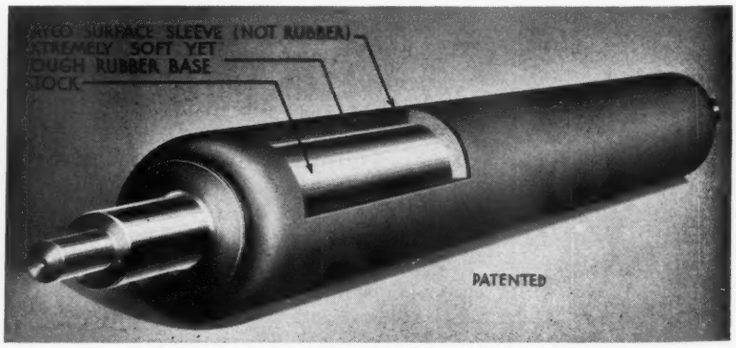
The book is Linotype-set throughout and is printed on a 60-pound offset paper especially made to insure opacity and calendared to reduce bulk.

It is a sewn book and opens flat, with an attractive cover of semi-rigid boards covered with pyroxylin-impregnated cloth, waterproof and dirt-repellant. The color scheme is blue with black stamping.

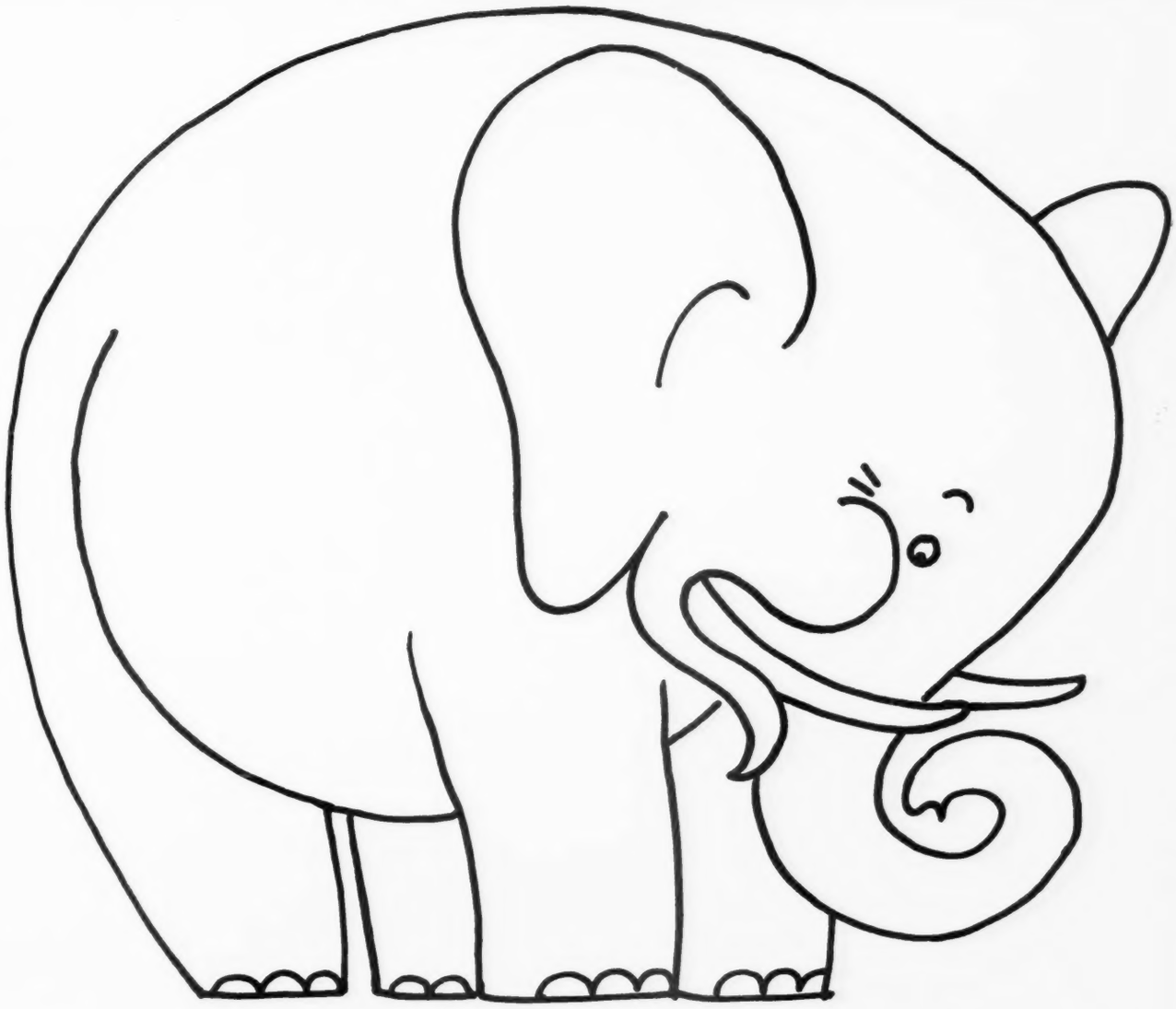
New Printing Press Roller

A new printing press roller is being made by The Dayton Rubber Mfg. Co., Dayton, Ohio. It has been named Dayco Roller by the manufacturers.

The base of this new roller, it is claimed, is made of the softest, yet toughest rubber ever developed. The outer cover or sleeve, fits over the base and forms a mirror-like, ink-resisting surface which maintains uniform tack under all climatic conditions. The sleeve is a synthetic flexible material, which according to the Dayton Rubber Mfg. Co.'s chem-



LINOTYPE



BANISH "WHITE ELEPHANT" OPERATIONS FROM THE

COMPOSING-ROOM!

What's slowing down work in your shop? Is it juggling jumbled heads and text? Or playing tag with scattered copy? Or the big-type problem? When you track down your "white elephant" operations, check up on the Complete Linotype System. See how it eliminates them . . . provides the right equipment for any class of work or production condition!

You can set any size type, from 5 point to 144 point, on the Linotype . . . with economy . . . with the convenience of slug make-up. Here's how the units supplement each other to speed jobs through in jig-time:

The Single Distributor Linotype takes ordinary composition. *The Continuous Composition Linotype* is for mixed material or quick shifts. *The Two-in-One Linotype* handles text and display. And there's the *All-Purpose Linotype* for maximum flexibility and full range of sizes. For greater efficiency, fill the blank spaces in your system.

MERGENTHALER LINOTYPE COMPANY, BROOKLYN, NEW YORK

Linotype Bodoni

ist, has properties not found in any other material. The sleeve is replaceable and regrinding is unnecessary. It is said that the Dayco Roller has been in use for testing purposes in commercial, national magazine and daily newspaper printing plants for nearly two years.

Useful Tool for Printshop

The Chicago Grinding Wheel & Mfg. Co., 1103 West Monroe St., Chicago, Ill., is making a tool which is of considerable utility about the printing plant. The Hand-ee Drill and Grinder is a small and compact motor-driven tool which is easily held in one hand.

The Hand-ee Drill and Grinder may be used with suitable chuck for drilling holes through cuts into metal or wood

base upon which the cuts are to be mounted, drilling register marks in color plates, clearing out jets in line-casting machine metal pot mouthpieces and monotype nozzles, spotting out small-area portions of cuts and plates. It may be used also for sharpening drills and other small tools by inserting any of the various-style mounted grinding wheel shanks in the Hand-ee chuck.

While spotting-out a cut, the Hand-ee may be held in a horizontal position in one hand with the thumb extended either alongside the edge of the cut or resting on the cut surface near the "spot" which is to be removed. For this work several small side milling cutters are provided. Pressure of the tool upon the work is not continuous but is applied and released at short intervals.

The Hand-ee grinder operates on a.c. or d.c. current, 110 volts, at a spindle speed of 13,000 r.p.m. The tool is set in motion by a gently increased pressure of the grip from the hand which holds the tool.

An assortment of small cutters of various kinds, permanently mounted on shanks, are available for use with the Hand-ee Grinder. The shanks are all of the same diameter to facilitate insertion in the chuck.

Edward J. Duffy

Mechanical executives throughout the country will regret to learn of the death on July 23 of Edward J. Duffy at Saranac Lake, N. Y., after a two-year illness. He was 47 years of age.

Mr. Duffy was born in New York. His first connection with the mechanical side of newspaper making was with the New York *Times* in 1909 as a flyboy. He went to the Boston *American* in 1914. A few years later he joined with the New York *Sun* as foreman of the pressroom. In August, 1921, he became foreman of the New York *Daily News* pressroom, and in January, 1929, he was elevated to the position of mechanical superintendent, which position he held at the time of his death.

Mr. Duffy was a member of the advisory board of the International Printing Pressmen and Assistants' Union No. 2. He was of an extra-technical turn of mind and assisted greatly in the development of rubber rollers, press blankets and ink fountains. He participated in the 1933 A. N. P. A. Mechanical Conference in Pittsburgh.

CHART SHOWING MEASURES OF ADVERTISING FIGURES

12 BGHINSTVW	14 BGHINSTVW	18 BGHINSTVW	*21 BGHINSTVW	•24 BGHINSTVW	30 BGHINSTVW	36 BGHINSTVW	**42 BGHINSTVW	
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			46	32 30 38 58	43 36 41 49 45 36 41 63 44	51 42 43 54 411 45 59 72 410	57 52 49 59 53 50 68 78 54	22
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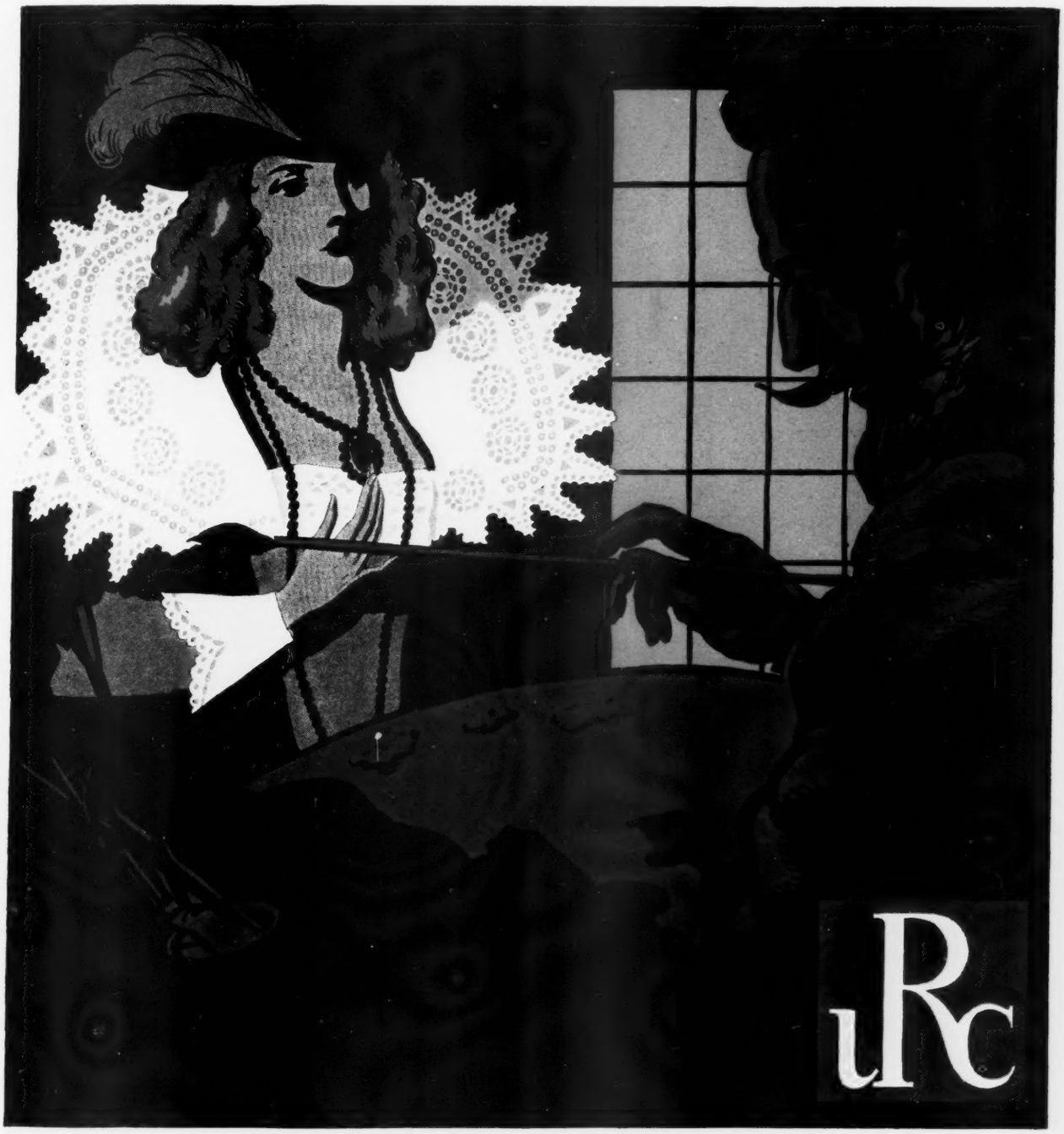
* Intertype Figures • Monotype Figures ** With 18 pt. Sup. Figs.

Artistic Application of Color

Demands the Finest Equipment



IDEAL ROLLER & MANUFACTURING COMPANY

CHICAGO · · · · · NEW YORK

Artistic Application of Color
Demands the Finest Equipment

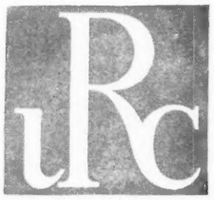
EVEN the famous Rembrandt, despite his exceptional talent, could not have produced his masterpieces with a calcimine brush. The products of a man's efforts are governed to a large extent by the materials with which he works.

Printing is an art, and the equipment necessary for producing high-quality work (upon which are built reputation and prestige) should be chosen with infinite care. Just any make or type of printing roller will not enable a pressman to produce an excellent job.

The life work of our organization is the building of printing rollers to fit every make of press and to adequately meet the requirements of every type of work. This accounts in part for the wide adoption of Ideal rollers by leading printers.

Win the enthusiastic cooperation of the men who actually produce the work—they know fine rollers! See that *your* plant has the proper roller equipment to insure uniform quality presswork produced on a basis which will show a well-deserved profit!

Without obligation, one of our service representatives will call and make a survey to determine the specific requirements of your plant.



IDEAL ROLLER & MANUFACTURING CO.

CHICAGO
2512 West 24th Street
Telephone, Lawndale 1995

NEW YORK (Long Island City)
22nd Street and 39th Avenue
Telephone, Stillwell 4-4387

MILWAUKEE
104 East Mason Street
Telephone, Broadway 2596

BOSTON
5 Purchase Street
Telephone, Hancock 1727

CLEVELAND
1374 East 12th Street
Telephone, Main 4353

HOUSTON
1701 Lamar Avenue
Telephone, Fairfax 4654

CINCINNATI
414 Pearl Street
Telephone, Main 3369

DETROIT
222 West Larned Street
Telephones, Randolph 7818, 7819

ST. LOUIS
1913 Washington Avenue
Telephone, Chestnut 6510

PHILADELPHIA
232 West Washington Square
Telephone, Lombard 2608

SAN FRANCISCO
433 Powell Street
Telephone, Douglas 2004

Ad Figure Slide Rule

To Determine Em and Point Measures of Any Size Has Been Developed for Use By Layout Man in Ad Alley

By LEON A. LINK*

AN ADVERTISING figure slide rule has been developed by S. K. Trunnell, assistant night ad room foreman on the Des Moines *Register and Tribune*. The purpose of the rule is to facilitate the marking up of ads where different sizes of ad figures are to be included in the composition.

At the top of each column on the card will be found the different sizes of ad figures and the letters immediately under the ad figure sizes are the code designations of the different faces most commonly used for ad figure work. For instance, "B" represents Bodoni Bold, "G" stands for Gothic and so on.

On the transparent celluloid slide are printed in red ink the different styles for setting ad figures which shows practically every possible combination, including superior figures with normal body sizes.

To illustrate its use, we will say that the layout man desires to use a 42-point Bodoni Bold figure and the price is to be set like this:

$22

He moves the transparent celluloid slide to the 42-point column over the letter "B" (because "B" is the code letter or symbol for Bodoni Bold) then runs down the line on the slide until he gets to the style, "$22," and it will show that the figure will occupy 5 ems and 4 points. No calculations necessary.

If he should decide to set it like this:

$22.00

he runs down the slide further in the column and notes that in that style it will occupy 9 ems and 6 points.

If it is to be set like this:

$^{\$}22^{00}$

with superior $ and 00, he selects the characters on the slide and moves the slide until the column of figures on the slide is over the "B" column on the card, when it will be found (again without calculations) that the figure combination is 6 ems and 1 point wide.

The layout men in our ad room feel that this slide rule saves considerable time in marking up ads.

The forms were set in our composing room and proofs were sent to the engraving department where reductions were made. The cards were printed from these reductions. A specialty company made the transparent celluloid slides.

S. K. Trunnell, Assistant Night Ad Room Foreman, Des Moines Register and Tribune, *Who Devised the Ad Figure Slide Rule.*

*Superintendent of Composing Room, Des Moines *Register and Tribune*, Des Moines, Iowa.

← Slide Rule on Opposite Page

Advertising figure slide rule which has been developed by S. K. Trunnell, assistant night ad room foreman of the Des Moines Register and Tribune. *The rule is designed to indicate at once the measures in ems and points of any style of ad figure or combination of figures in use in the* Register and Tribune *composing room.*

The card (4½ in. by 9 in.) is cut from heavy bristol board. All sizes of ad figures are printed in black ink in columns from 12 points to 120 points. Eight sizes, from 12 points to 42 points, are printed on one side of the card and seven sizes from 42 points (with superior figures) to 120 points, are printed upon the reverse side of the card.

At the extreme right is shown the transparent celluloid slide which is movable horizontally over the card area. The figures on the slide are printed in opaque red ink.

The capital letters in the upper box of each column are code letters or symbols for the name of each type face for which ad figures are provided. For instance, "B" indicates Bodoni Bold, "G" indicates Gothic, and so on. By referring to the text of Mr. Link's article, it may be understood readily how the slide rule is used.

Better Printing Contest

The Northwest Daily Press Association is conducting a Better Printing Contest which is open to all member papers of the Association. The prize, $100 in cash, will be awarded to the winning newspaper for distribution among the members of the mechanical staff submitting papers as designated by the committee. The contest started July 15 and will end December 15. One paper selected from one date during the last half of July and one for each full month, or five copies in all, will be judged.

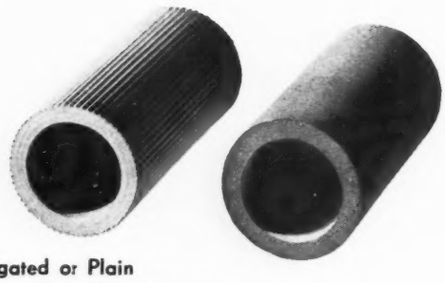
It is pointed out that some members of the Northwest Association have modern equipment in their mechanical departments, but it is asserted that better results may be accomplished with poor equipment if the element of carelessness can be eliminated by encouraging personal interest.

Judges of the contest will include Bert Foster, Mechanical Superintendent of the Minneapolis *Journal;* G. O. Ludcke, Bureau of Engraving, Minneapolis, and Prof. Kenneth Olson, School of Journalism, University of Minnesota.

The contest is designed to bring better returns to national advertisers through better printing of advertisements.

BOOTH

"Green" Keyboard Rolls



Corrugated or Plain

$1.20 per Pair; $6.60 per Dozen

Repeat Orders Proof of User Satisfaction

Cincinnati, Ohio,
January 29, 1934.

E. A. Booth Rubber Co.,
Cleveland, Ohio.

Dear Sirs: After giving the green rubber keyboard rolls you sent us a trial, we would like to have you send us two dozen more rolls if they are like the ones we received previously.

Yours respectfully,
Cincinnati *Times-Star*,
W. H. Buckton, Machinist.

Cincinnati, Ohio,
April 5, 1934.

E. A. Booth Rubber Co.,
Cleveland, Ohio.

Dear Sirs: Please send us two dozen of your green rubber keyboard rubber rolls. The last we received were very satisfactory—better than any we have had.

Yours respectfully,
Cincinnati *Times-Star*,
W. H. Buckton, Machinist.

Printers' "Zink" Cut Cement

(Registered U. S. Patent Office)

For fastening cuts of all kinds to wood, steel, iron or stereotype metal base. It is designed for use in commercial and newspaper printing and publishing plants.

Put up in collapsible tube with nozzle applicator. Only a little cement required for each cut. Nozzle prevents waste. Messy, open-top jars and pots eliminated.

Price, 50c per tube, $5.00 per dozen tubes.

The E. A. Booth Rubber Co.
364 Rockefeller Bldg. Cleveland, Ohio

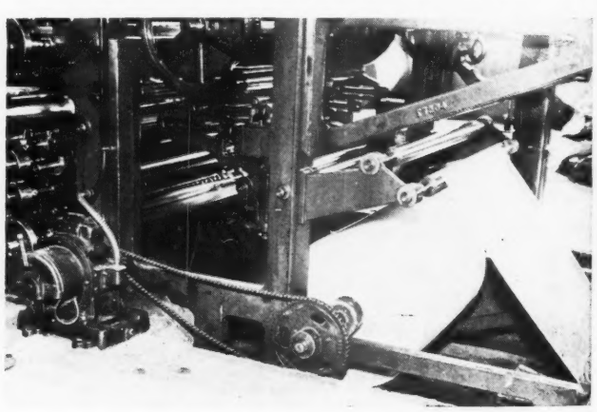
Simple Newsprint Butt Rewinder

For Use in Small or Semi-Metropolitan Plant, Devised by M. G. Broad, Nassau Review *Pressroom Foreman*

By Staff Writer

Equipment for rewinding newspaper butts and its effect on white waste savings as well as the possibilities of expediting press runs, have received considerable attention from time to time. In most instances, the discussion has been concerned with equipment suitable for use in metropolitan newspaper pressrooms.

Relatively speaking, rewinding equipment is of as much importance to the smaller newspaper plant for the reason that the practice of economy in the smaller plant is as



View of the Broad newsprint roll rewinder as attached to a Duplex tubular press in the plant of the Rockville Center (N. Y.) Nassau Daily Review. *The motor is connected to a sprocket on the roll spindle by a chain and is slidably mounted on a fixed base bolted to the floor. The roll is being wound from butts, one of which is resting in the frame at the extreme right of the picture. Each roll is rewound from the butts until it is of the same diameter as rolls received from the mills. Splices may be made with rubber tape or gummed paper. The motor is Type BS-R, General Electric, variable speed, 1½ h.p.*

essential as in the large plant. Rewinding equipment in the large plant requires higher money investment than executives in some of the smaller plants feel is justified.

With these thoughts in mind, M. G. Broad, pressroom foreman of the Nassau *Daily Review*, Rockville Centre, N. Y., devised a rewinding equipment which is very simple in construction.

Four years ago, following the installation of a six-unit, high-speed Duplex tubular press, in the *Review* plant, Mr. Broad was faced with the demand for as speedy a press run of some 20,000 papers as it was possible to procure. To many pressroom executives who operate presses not equipped with reels and other automatic roll-changing devices, it is

easy to appreciate just what it means in regard to production if one had to contend with newsprint roll stubs. It was with this thought in mind and also that of the saving of all possible white waste that a re-winder was built and installed to be used in connection with the new press.

Two advantages are gained by the use of the rewinding equipment. One is the elimination of almost all white waste, since all stubs which ordinarily have to be stripped are rewound, no matter how small they may be. This saving alone paid for the entire investment of this re-winder equipment in the first three months of its use. The other advantage is that it cuts considerably the press running time, due to the fact that there are never at any time stubs to contend with, either from web breaks or roll changes. It is, of course, impossible to measure in dollars the value of this equipment from a time-saving angle, time being of the utmost importance in every pressroom.

As is shown in the illustration, the equipment is quite simple, consisting of a 2 h.p. variable speed motor, an endless chain drive and two sprockets. The method of operation is simple. By merely fastening the larger sprocket on the end of the paper roll spindle on the inside of the bottom paper roll rack the spindle is ready for operation. The bearing should be loose enough to permit easy removal of the sprocket from the spindle when the re-winder is not in use. It should however, be fastened to the spindle by set screws when being used. The small sprocket is fastened permanently on the motor drive shaft. Next, the chain is put on the motor adjusted on its sliding base to obtain the desired tightness. The other end of the paper spindle is held in the usual tension device. Next, place immediately behind the roll on which the stubs are to be re-wound one of the stubs and splice the sheet of newsprint, either with rubber tape such as is used by newsprint manufacturers, or gummed paper. By running the motor and operating the tension on both rolls in such a manner as to wind tightly and keep lined up, the operation is complete.

With close cooperation from the newsprint manufacturers it is possible to obtain all rolls the same diameter, with the result that rolls on all printing units, run out at the same time. Then by following with full standard size rolls only one press need be stopped for paper changes, all stubs having been rewound into rolls of the same diameter as those received from the mill.

The entire cost of this equipment is less than $200. It pays the publisher big dividends, saves the press crews all web trouble occasioned by the running of stubs and increases production considerably. In the particular instance at the *Review* plant the press running time was cut 30%.

Ultra Bodoni Extra Condensed

The American Type Founders Sales Corporation has just announced the production of Ultra Bodoni Extra Condensed, a new companion type face to Ultra Bodoni.

The example following shows the 18 point:

Ultra Bodoni Extra Condensed

Here are two lines of this new letter showing its sharply chiseled, chaste and dignified characters. It has been made in eight sizes from 18 to 72 point. Two additional sizes, 12 and 14 point, are in preparation.

• METROPOLITAN •
CORK MOLDING BLANKET

SEE THEM IN USE

The New York Times
N. E. A. Service
The New York Herald-Tribune
The New York World-Telegram
The Providence Journal
Christian Science Monitor
Boston Herald-Traveler
Hartford Courant
Chicago Tribune
San Francisco Examiner

American Publishers Supply • P.O. Box 131 • W. Lynn, Mass.

July—Banner Month and a Banner Day for "Klean-O-Mat"

The number of orders received during July was the largest in the history of "KLEAN-O-MAT" and on one day alone —July 24th—more outfits were sold than in any previous six-month period. There's a reason for this record and *you* should learn what it is. Simply tell us how many line-casting machines you operate, average number of operators, and how many magazines. We'll submit a cost analysis that will make you think—and think *hard*.

This Easily-Operated Machine Cleans Mats and Magazines in 30 Minutes

"Klean-O-Mat" Compound Safest, Best, Cheapest

Users — everywhere — say "KLEAN-O-MAT" Compound is the safest, cheapest and best cleaner they have ever used. Don't accept substitutes, but *insist* on the *genuine*, trade-marked "KLEAN-O-MAT," manufactured under rigid control by a 41-year-old company. *Try it today.*

KLEAN-O-MAT DIVISION,
THE FRED GOAT CO., INC.
ESTABLISHED 1893

Klean-o-Mat PROCESS

314 DEAN STREET • BROOKLYN, N. Y.

Drives for Offset Presses

New Equipment Is Flexible and Functions to Operate Presses According to Load Conditions and Speed Requirements

By E. H. Laabs*

The rotary offset printing press of today can be considered a combination of the tin printing machine and the direct rotary—the tin printing machine contributing the rubber printing function, and the direct rotary press the rotary principle for requisite speed.

One of the first machines built, based on the Barclay patent of 1875, did not present much of a drive or control problem, as its speed was very low and the machine was of comparatively simple design. Even later, in the years from 1900 to 1912 when the two-revolution offset press, the single-revolution, single-color press and the multi-color machines were introduced, the speeds were comparatively low.

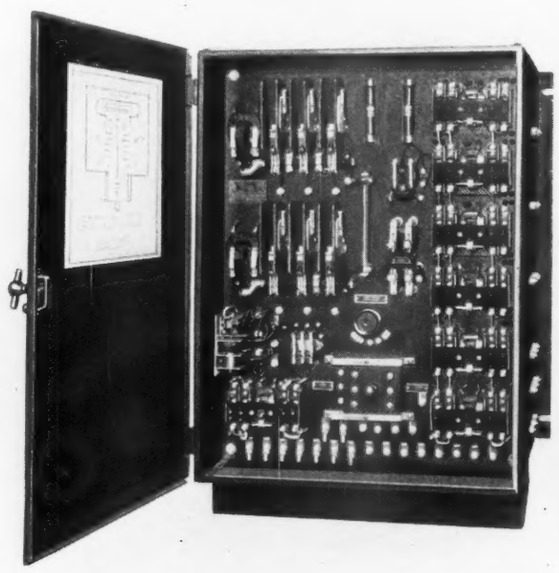


Fig. 1.—Cutler-Hammer Panel Type Controller for offset printing presses. On the panel are mounted forward and reverse three-pole contactors, control fuses, control relays, a set of accelerating switches, brake switch, torque switch, trip speed adjustment and load adjustment switch. The accelerating switches, mounted in line at the right of this panel, are controlled by a knob in the master station shown in Fig. 2.

*Supervising Engineer, Cutler-Hammer, Inc., Milwaukee, Wis.

The first power presses were driven by steam engines and belt connected, with tight and loose pulleys, printing 7000 impressions a day. Today, with presses geared for 7000 impressions an hour, equipped with automatic feeders and deliveries, the drive and control

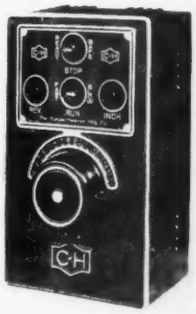


Fig. 2.—Cutler-Hammer master station for large and intermediate offset printing press controllers. Speed changes are obtained by turning the knob to control the accelerating switches shown at the right in Fig. 1.

problem is one involving the proper selection of an electric motor, the transmission medium between motor and press, and the correct controller.

The controller, whether used for direct current or alternating current service, must embody the following functions:

Inching.
Smooth starting.
Gradual increase in speed.
Speed adjustment.
Automatic slow-down (trip speed).
Quick stopping (braking).
Reversing.
Load adjustment.
Safety features.

With the increase of alternating current service, alternating equipments are exceeding by far direct current installations, and therefore we are discussing the latest development of alternating current equipment for the purpose.

The motor is of the induction variable speed type, 40 deg. rating and of 1200 or 1800 r.p.m. depending upon the speed ratio of the press drive shaft to impression cylinder. The motor is mounted on a slide base or set of rails for adjusting the tension of the drive medium or transmission.

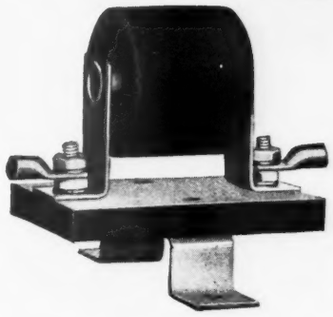
The drive medium connecting the motor to the press drive shaft may be of the V-belt type, flat belt or the silent chain type.

The controller, which is generally considered the brains of the complete drive and control equipment, is of the panel type construction, totally enclosed as illustrated in Fig. 1. On the panel are mounted the forward and reverse three-pole contactors, a set of control fuses, control relays, a set of accelerating switches, a brake switch, a torque switch, a trip speed adjustment and a load adjustment switch.

It will be noted that there is no rheostat or three-arm regulator for cutting in or out the resistance in the secondary circuit of motor to obtain speed adjustment. Speed changes are obtained by means of the knob in the master station shown in Fig. 2 which

How You Can Save 98%

AND DEFINITELY PROTECT YOUR D-C. CIRCUITS FROM INSULATION PUNCTURE



THIS new Thyrite discharge resistor provides definite protection for d-c. circuits from insulation puncture and, at the same time, saves 98 per cent of the power consumed by ordinary permanently connected resistors.

Every time you open a d-c. circuit, you subject it to extremely high potentials. Unless you have provided the correct resistor to limit the peak discharge voltage, you are risking an expensive insulation puncture.

Thyrite discharge resistors, in addition to providing definite protection and power savings, are inexpensive and easy to install. Merely connect a G-E Thyrite resistor across the circuit, and you have removed the hazard of costly burnouts, no matter where the circuit is opened.

For complete information on how you can benefit by using Thyrite resistors, mail the coupon for our new bulletin.

GENERAL ELECTRIC

General Electric, Department 6B-201,
Schenectady, N. Y.

Please send me a copy of your new bulletin (GEA-1962) which gives complete information on G-E Thyrite resistors.

Name.....

Company.....

Address..... 080-22

WHY WE STICK TO IMPERIAL

Metal Troubles Never Spoil My Vacations!

"YOU may think that a vacation free from all metal worries is a slim reason for sticking to Imperial, but wait 'till I tell my story. Some three years ago (we were using another metal then) I went on my annual vacation. I had my mind all made up that I was going to loaf and play golf every day of my two weeks. The third day out I got a wire that there was trouble and plenty of it in the shop back home and for me to come right back and iron things out. That ruined my vacation for that year, and it was all because of inferior type metal. Then and there I decided to look the metal market over thoroughly and find someone who could supply us with metal that would give us a minimum of machine and metal trouble. My choice was Imperial, and, believe me, I haven't had a vacation spoiled since then. Of course, there's one other reason and that is Imperial Metal costs less in the long run."

Imperial METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

controls the accelerating switches mounted in line at the right of the panel, cutting out resistance for increasing the press speed and conversely for decreasing the speed. There are sixteen speed points. At the top

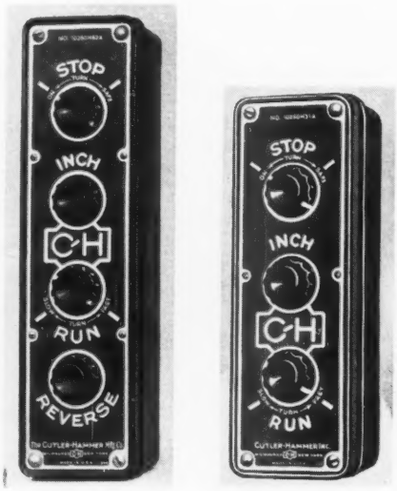


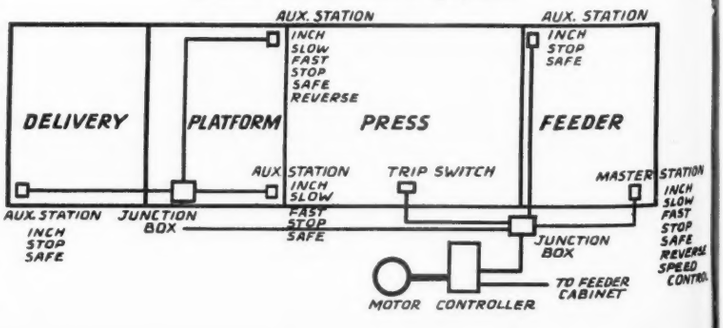
Fig. 3.—In a large or intermediate offset press installation, using the Cutler-Hammer drive and control equipment, several of these auxiliary push-button stations are mounted at different points on the press, by means of which the functions "inch," "reverse," "start," "stop" and "safe" may be obtained.

of the master station is a set of push buttons for inching, reversing, starting, stopping and for locking the entire control system "safe." There are also several auxiliary push button stations mounted at different places at the press from which the functions inch, reverse, start, stop and safe are obtained as shown in Fig. 3 on this page.

When a sheet is misfed, a trip switch functions automatically to reduce the speed of the press to slow speed. This trip speed can be adjusted to suit the specific requirement by means of the trip speed adjusting knob on the control panel, for the washing and the clutching in of the feeder.

The resistor which is mounted in the enclosing case back of the panel is designed to obtain approximately 70 per cent speed reduction at the rated horsepower of the motor. To meet the different load conditions, especially with multi-color presses and those presses used with a bronzer, the load adjustment switch, lo-

Fig. 4.—Schematic diagram showing conduit layout and control station positions on an offset printing press with feeder and delivery, using Cutler-Hammer drive and control equipment.



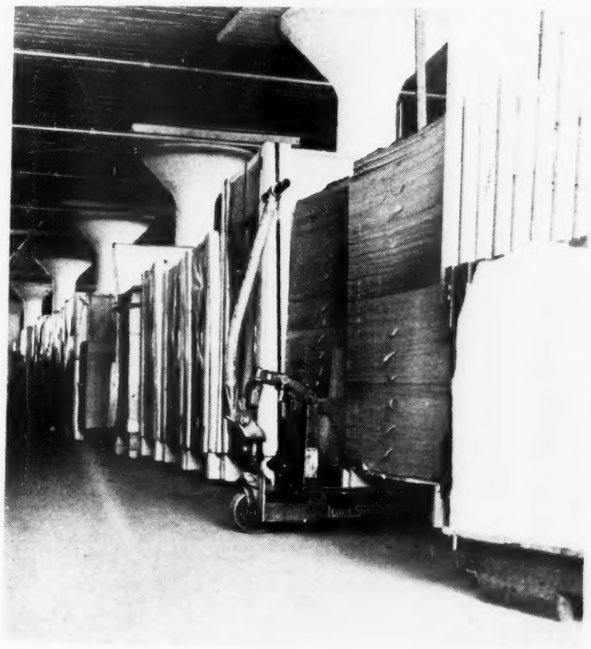
cated at the middle and lower part of the panel (Fig. 1) is moved to the right for light loads and to the left for heavy loads caused by certain types of work.

The brake relay functions to stop the press when the "stop" button in any one of the push button stations is depressed, or if the "trip-to-stop" switch is operated. This device eliminates the use of a brake and brake wheel at the motor, permitting the use of a standard motor without a special shaft extension and attachment at the slip ring end.

In Fig. 4 is shown a typical layout of an equipment with accessories, indicating the relative location of the various units to the press. This schematic diagram also serves as a conduit layout when making the installation of the new equipment.

Lift Trucks for Handling Paper Stock

The illustration shows a Lewis-Shepard jack lift truck used by the Berlin & Jones Envelope Company, New York, N. Y., for handling large bundles of paper shipped on skids. This truck makes possible the buying of paper in larger units at a lower price. It also greatly facilitates handling of quan-



tities of paper stock in the shop. There are several of this type of truck in service in the plant.

The neat arrangement of the stock should also be noted, as well as the aisles left for moving it. The plan of tiering paper on skids and providing aisle space has the endorsement of the National Safety Council. See W. Dean Kiefer's article in March *Printing* EQUIPMENT *Engineer*.

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1,958,335. SLUG CASTING MACHINE. Archie V. Gilbert, Spokane, Wash., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application May 28, 1932. Serial No. 614,175. 11 Claims. (Cl. 199—50.)

1. In a slug-casting machine, the combination of a pair of opposed relatively movable jaws between which the line is confined in casting relation to a mold, means for operatively coupling the jaws, operating mechanism connected with one of the jaws, a locking device for a jaw and means under control of the operating mechanism for actuating the locking device, means under control of a moving part of the machine for actuating the operating mechanism, and means for uncoupling the jaws.

1,958,401. JUSTIFICATION CONTROL DEVICE FOR TYPOGRAPHICAL MACHINES. Ransom H. Turner, Little Neck, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application August 15, 1933. Serial No. 685,259. In Germany March 14, 1933. 14 Claims. (Cl. 199—51.)

1. In a typographical machine having movable vise jaws for quadding at either end or centering matrix lines containing expansible spacebands for spreading them, a justifier embodying a spaceband expanding member tiltable in one or the other direction to assist the sliding of the spacebands toward one or the other vise jaw and movable into a horizontal position for expanding spacebands in lines to be centered.

1,958,311. LITHOGRAPHIC INK COMPOSITION. John V. Mehl, Union City, N. J. No Drawing. Application August 16, 1932. Serial No. 629,083. 1 Claim. (Cl. 134—35.)

A lithographic ink consisting of an emulsion of a greasy ink, a saturated solution of sodium hyposulfite, glycerine, rubber cement, and nicotine in the proportion of substantially one pound of the greasy ink to one-half ounce of each of the other substances.

1,958,519. MATRIX. Thomas L. McElroy, Brooklyn, N. Y., assignor to William T. Ball, Brooklyn, N. Y. Application December 15, 1932. Serial No. 647,458. 9 Claims. (Cl. 91—68.)

1. A matrix comprising a mat body and a coating on the body of lycopodium.

1,958,593. METHOD OF AND APPARATUS FOR DAMPENING IN LITHOGRAPHIC PRESSES. Joseph Schultz, Cleveland, Ohio. Application July 28, 1932, Serial No. 625,395. 28 Claims. (Cl. 101—147.)

1. In a lithographic press, a moving lithographic plate, a reservoir of liquid, a relatively soft flexible liquid distributing apron lightly riding on the plate, and a plurality of capillary elements each having one end immersed in the liquid and the other end positioned exteriorly of the reservoir below the level of the liquid in the reservoir, to feed liquid to the apron, independently of every other element.

1,958,793. TYPE-HIGH MACHINE. James Edgar Lee and Freeman Barney, Grand Haven, Mich., assignors to The Challenge Machinery Company, Grand Haven, Mich., a corporation of Michigan. Application March 2, 1931. Serial No. 519,407. 8 Claims. (Cl. 90—19.)

1. A device comprising a work supporting bed, a bridge mounted the movement over the bed, a tool carrying member having two supporting shoulders in different horizontal planes, either of the supporting shoulders being engageable with the bridge to support the tool carrying member thereon in either of two predetermined horizontal planes, a tool and means for mounting the tool on the tool carrying member for vertical adjustment relative thereto.

1,958,809. LOW QUAD MOLD CONTROL MECHANISM. Arthur H. Beck and Frank C. Botz, Jefferson City, Mo. Application May 16, 1932, Serial No. 611,724. 5 Claims (Cl. 199—85.)

1. Control mechanism for a part of an automatic type-casting machine which comprises a centering pin, means permitting the centering pin to descend, in the operation in which such part is involved, a distance different from that in other operations, fluid operated means for actuating the part, and means associated with the centering pin to cause such different descent to operate such fluid operated means.

1,958,902. PRINTING CYLINDER APPLIANCE. David J. Scott, Plainfield, N. J. Application October 31, 1932, Serial No. 640,436. 2 Claims. (Cl. 101—378.)

1. In a printing machine: a printing cylinder, a plurality of segmental printing plates carried by the cylinder one circumferentially behind another in spaced relation at both straight ends, stationary plate confining members on the cylinder located intermediate the plates at both straight ends, and pivotally supported plate clamping members on the cylinder also located intermediate the plates at both straight ends, the stationary and pivotally supported members at both straight ends of the plates alternating and engaging different plates.

1,959,209. THROW-OFF MECHANISM FOR PRINTING PRESSES. Abel Kluge and Eneval Kluge, St. Paul, Minn., assignors to Brandtjen and Kluge, Inc., St. Paul, Minn., a corporation of Minnesota. Application March 22, 1933, Serial No. 662,096. 9 Claims. (Cl. 101—300.)

1. In combination with a platen printing press having an oscillatory bed, a back shaft journaled therein, and side arms eccentrically connected with the back shaft, of throw-off mechanism adapted to hold the back shaft in impression position and to rock the shaft from such position to prevent the making of an impression, the mechanism including an arm on the back shaft and a pair of knee jointed elements, one pivotally connected with the arm and the other with the press frame, the joint between the elements in their broken relation being disposed in axial alignment with the axis of the bed, and, in their extended relation, in an elevated position forwardly of the axis, such elements being adapted, upon being shifted into their extended relation, to turn the back shaft from impression position and, in such extended

relation, to continue such turning of the back shaft as the bed of the press closes, the elements being further adapted, upon being shifted back into their broken relation, to turn the back shaft back into impression position, a lever swingably mounted on the press frame, a link having a knee jointed connection with the lever and a pivotal connection with one of the nee jointed elements, the lever and link serving to shift the elements from one of the relations thereof to the other, yielding means acting upon the lever, at either side of an intermediate position, and serving to releasably lock the connection between the elements in their extended relation and similarly lock the connection between the lever and link for releasably holding the elements in their broken relation.

1,959,312. LINE CASTING MACHINE. Ransom H. Turner, Auburndale, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application June 9, 1933, Serial No. 675,133. In Germany July 1, 1932. 11 Claims. (Cl. 199 — 50.)

1. In a line-casting machine having means for automatically moving the right-hand vise jaw to close it against a short matrix line and cover the front of the remaining length of the mold by the face of such vise jaw, a stop adjustable manually, independently of the jaw, to one or another predetermined position constant with respect to the normal line receiving poistion of the jaw and corresponding to the desired length of the matrix line, prior to the operation of the jaw moving means, and operable to positively limit the right-hand vise jaw during justification of the line.

1,959,371. WEB PRINTING MACHINE. Frederick Lamatsch, Grantwood, N. J., and Charles W. Ginsberg, Brooklyn, N. Y., assignors to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application August 25, 1930, Serial No. 477,670. 7 Claims. (Cl. 270 — 5.)

1. In a printing unit for a multi-unit printing machine having its units arranged in a line on a floor level, a first printing couple, a perfecting printing couple in superposed relation to the first printing couple, each printing couple having a form cylinder and an impression cylinder in horizontal alignment, an inking mechanism for each printing couple, the inking mechanism for the first printing couple including an upper ink cylinder positioned immediately adjacent and below its form cylinder and a lower ink cylinder adjacent and below the upper ink cylinder and in close proximity to the floor level, the inking mechanism for the perfecting printing couple including an upper ink cylinder positioned immediately adjacent and below its form cylinder and a lower ink cylinder adjacent and below the upper ink cylinder and in close proximity to the impression cylinder of the first printing couple, each ink cylinder being of substantially less diameter than the form cylinders, opposed form rollers of less diameter than the ink cylinders in running engagement with the upper ink cylinder of each inking mechanism and a form on the cooperating form cylinder, the close proximity of the form cylinders and the upper ink cylinders of the inking mechanisms spacing the opposed form rollers of each inking mechanism a relatively great distance apart, and means for supplying ink to each inking mechanism.

1,959,445. TENSION FOR PAPER ROLLS. Gottfried Salzer, West Hartford, Conn., assignor to R. Hoe & Co., Inc., New York, N. Y., a Corporation of New York; Irving Trust Company, receiver. Application September 18, 1926, Serial No. 136,263. 4 Claims. (Cl. 242 — 75.)

1. In a tension mechanism for paper rolls for printing presses, the combination of a flexible friction device arranged to engage the surface of the paper roll, a fixed support for one end of the friction device, a rotary member around which the other end of the friction device is wound, means for effecting the rotation of the member as the paper roll decreases in size, and a member located at a point between the rotary member and the paper roll around which member the flexible friction device passes before it reaches the rotary member.

1,959,656. MACHINE FOR ROUNDING AND BACKING BOOKS. Alfred Cahen, Cleveland Heights, Ohio. Application February 19, 1931, Serial No. 517,071. 20 Claims. (Cl. 11 — 5.)

1. In a machine of the class described, the combination of means for longitudinally advancing a succession of books, and means for rounding the books during such advancing movement.

1,959,914. MOLD-CAP FILLER BAR FOR INTERTYPE CASTING MACHINES. Wellington Abbey George, Bellingham, Wash. Application August 3, 1932, Serial No. 627,329. 2 Claims. (Cl. 199 — 55.)

1. In a mold body, a mold cap adapted for being releasably fastened to the mold body, the first elevator jaws, a matrix, having a type recess therein, retained in the first elevator jaws operatively bearing on the mold body disposing the type recess adjacent the mold cap and extended beyond the same, a mold-cap filler bar having its bottom and rear edge operatively disposed to rest on the mold cap and on the matrix adjacent the extended portion of the matrix recess with its front face flush with the front face of the mold, lugs on the filler bar, and fastening bolts and nuts bearing on the lugs disposed to clamp the mold cap filler bar and mold cap in operative position.

1,959,947. COPYING PROCESS FOR ZINCOGRAPHY. Karl Droege, Frankfort-on-the-Main, Germany. Application January 14, 1932, Serial No. 586,711. 3 Claims. (Cl. 95 — 5.7.)

3. A zincographic copying process wherein an albumen-bichromate solution is used as a light sensitive film, consisting in rubbing over the exposed plate with a solution of printer's black in oil of turpentine until the plate becomes dry, washing the plate with a solution of ammonia and water, applying to the plate where the drawing appears a solution of shellac, washing the plate with paraffin, applying to the plate an aqueous solution of gum arabic to free the plate from fat, etching the plate with dilute nitric acid, cleaning the plate with dilute sulphuric acid and corroding the plate with an acid bichromate solution to accentuate the etched surface, the plate being rinsed after each operation.

1,959,992. SILK SCREEN PRINTING METHOD. Franz Weiss, Chicago, Ill. No Drawing. Application September 8, 1933, Serial No. 688,697. 5 Claims. (Cl. 101 — 115.)

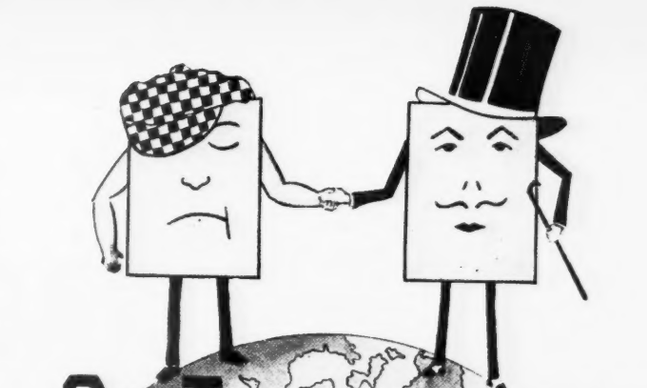
4. A process for the purposes set forth, comprising tracing the outline of a drawing upon a silk screen with ink, placing the screen over a roughened plate having raised projections, shading in a portion of the drawing with wax pencil on the plate-supported silk, coating the silk with a wax-repellent material, removing the wax, printing upon a surface, by forcing colored ink through the screen, removing the material on the silk, again placing the drawing over the roughened plate, shading in another portion of the drawing with wax pencil, coating the silk with a wax-repellent material, removing the wax, and printing upon a surface by forcing a different colored ink upon the screen.

1,960,182. TYPOGRAPHICAL MACHINE. Herman R. Freund, Brooklyn, N. Y., and Le Roy W. Willis, Stamford, Conn., assignors to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application May 25, 1932, Serial No. 613,522. Renewed April 13, 1934. 14 Claims. (Cl. 199 — 19.)

1. In a typographical machine having a matrix assembler, and an assembler entrance at one side thereof of a width adapted to receive matrices from the delivery end of a matrix magazine of standard width and direct such matrices to the assembler, a matrix magazine of greater width at its delivery end than that of such standard width magazine for delivering matrices into the entrance, a portion at least of the increased width of the delivery end of such magazine being disposed at the side thereof toward the assembler and the side of the magazine extending laterally beyond a point vertically above the assembler.

1,960,513. PRINTING PRESS. Arthur Rosenthal, Grand Rapids, Mich., assignor to The Rose Patch & Label Company, Grand Rapids, Mich. Application March 20, 1933, Serial No. 661,796. 17 Claims. (Cl. 101 — 165.)

1. In an apparatus for printing letterheads from webs, letterhead dies set up in spaced relation in pairs in a press having a single fountain for inking the dies and a single wiping strip adapted to wipe the dies simultaneously, each pair of dies being set up in opposed relation, a counter for the dies having an opening centrally thereof for the passage of two webs, the opening being in the portion between those on which the pairs of dies press, means or delivering two webs to the press through the opening in the counter whereby a pair of dies print letterheads in parallel relation and transversely of one of the webs only, feeding means for each web adapted to feed the web through the press intermittently a distance equivalent to the length of a single letterhead comprising a pair of holding jaws having spring means to hold them together, a pair of reciprocating feeding jaws adapted to feed the web a distance equal to the length of a letterhead and having spring means to hold



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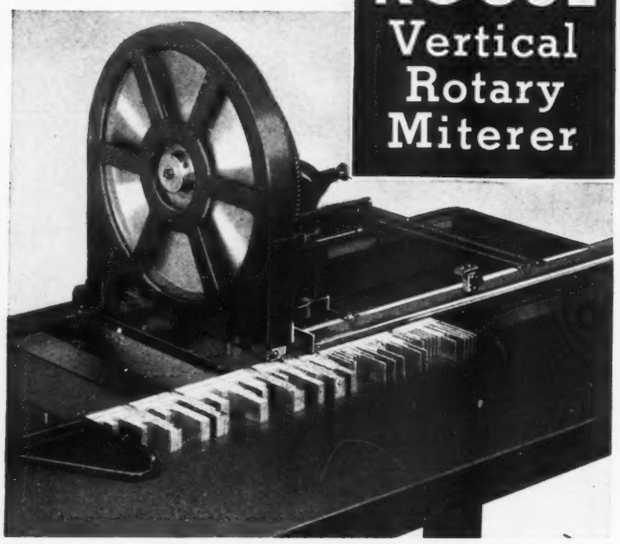

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them yieldingly together, cam means to open the holding jaws when the web is being fed and to permit closing of the jaws when feeding has stopped, and cam means adapted to open the feeding jaws at the end of the feed motion and to permit closing thereof during the feeding operation, cut-off means for each web through which the web passes adapted to cut from the end of the web a single letterhead and timed to operate after each feeding operation whereby every other cut is made between the opposed letterheads on the web, and means for driving the press, the feeding means and the cutting means whereby the feeding means and cutting means operate twice to one operation of the press and the letterhead dies are inked and wiped during the feeding and cutting operations.

1,960,602. MATRIX. Hylton Swan, Upper Montclair, and Sigfried Higgins, Verona, N. J., assignors to Bakelite Corporation, New York, N. Y., a corporation of Delaware. Application July 6, 1929. Serial No. 376,486. 10 Claims. (Cl. 41 — 25.)

1. Matrix suitable for the preparation of printing plates comprising a molded phenolic resinoid composition having a contact surface of regenerated cellulose secured thereto by a cement including furfural and glycerine.

1,960,646. TYPOGRAPHICAL COMPOSING AND DISTRIBUTING MACHINE. Herbert Peacock, Altrincham, England, assignor to Linotype and Machinery Limited, London, England, a limited-liability company. Application November 7, 1932. Serial No. 641,557. In Great Britain December 4, 1931. 7 Claims. (Cl. 199 — 36.)

1. In spacer distributing mechanism for typographical composing and distributing machines, the combination with a transfer channel in which spacers are supported by their projecting ears and a pivoted transfer finger movable relatively to the transfer channel forwardly into engagement with the end spacer and backwardly to carry the spacers out of the channel into the spacer magazine, of means for holding the finger out of contact with the spacers throughout its forward stroke and for insuring its movement into spacer-engaging position at or before the commencement of the backward stroke.

1,960,647. METHOD OF AND APPARATUS FOR PRODUCING INK TRANSFER MEMBERS. George E. Pelton, Hartford, Conn. Application October 8, 1930, Serial No. 487,308. 17 Claims. (Cl. 91 — 70.)

1. The steps in making ink transfer members which comprise producing a plurality of inked strips, more dry on one side than on the other, winding the strips together with their more wet surfaces in engagement and their more dry surfaces out of contact, and maintaining this relation while the ink sets.

1,960,650. SLUG CASTING MACHINE. Anthony J. Stouges, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application November 30, 1932, Serial No. 644,955. 20 Claims. (Cl. 199 — 61.)

1. In a slug casting machine, the combination of a mold in which a slug is cast, means for ejecting the slug from the mold, and means actuated in timed relation to the slug ejecting means for subjecting the slug to the action of a cooling medium after ejection.

1,960,656. DISTRIBUTOR BAR FOR TYPOGRAPHICAL COMPOSING AND DISTRIBUTING MACHINES. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a corporation of New York. Application November 22, 1932, Serial No. 643,806. In Germany August 9, 1932. 1 Claim. (Cl. 199 — 64.)

In or for a typographical composing and distributing machine adapted to be equipped with matrices having like distributing teeth located on opposite sides of their V-shaped notches in relatively staggered relationship, a distributor bar having like tooth combinations relatively staggered on its two sides to correspond with the staggered teeth of the respective matrices.

1,960 660. SLUG CASTING MACHINE. Harold A. Burt, St. Albans, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application November 30, Serial No. 645,027. 12 Claims. (Cl. 199 — 32.)

1. In a slug-casting machine, the combination of a vertically movable transporter constructed so as to support the individual matrices of a composed line at two different casting levels and operable to carry the line downwardly to the casting position and thence upwardly to the transfer position, means including a retractable pressure bar for preventing the twisting or displacement of matrices supported at either or both levels during the vertical movements of the transporter, and means for retracting the bar as the transporter attains the transfer position, for the purpose described.

1,960 678. CLAMPING DEVICE FOR PRINTING PLATES. Samuel W. Marvin, Cambridge, Mass., assignor of one-third to William J. Marsh, Concord, Mass., and one-third to Charles G. Wells, Boston, Mass. Application September 17, 1932, Serial No. 633,592. 4 Claims. (Cl. 101 — 387.)

1. A clamping device having, in combination, a slidable clamping member capable of being inserted into a slot in the upper surface of the bed block of a printing press and of sliding lengthwise of the slot, a rotatable clamping member carried by the slidable clamping member and adapted to be engaged with one wall of the slot and effect engagement of the slidable clamping member with the opposing wall of the slot, and cross members secured to the slidable clamping member and extended transversely thereof to form a guideway through which the rotatable clamping member is accessible from above the bed block.

1,960,697. IMPROVED MATRIX FORMER AND DRIER. Albert W. Cochran and Henry W. Dewey, Portland, Oreg. Application February 2, 1931. Serial No. 512,918. 6 Claims. (Cl. 34 — 16.)

1. In a stereotype matrix former and drier, the combination of hollow complementary housing sections, a porous, flexible matrix-holding sheet carried by one of the sections, the other section having a perforated inner wall constituting a matrix forming surface, means providing an offset marginal seal for the porous sheet, thus to provide a matrix receiving space within the marginal seal, means for heating the forming plate and the sheet respectively, and means for applying suction whereby to draw the sheet and the matrix firmly to the forming surface.

1,960,752. STEREOTYPE PLATE FINISHING MACHINE. George E. Pancoast, Seabright, N. J., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application August 16, 1933, Serial No. 685,404. 6 Claims. (Cl. 29 —21.)

1. In a plant for preparing stereotype printing plates, the combination of a plurality of finishing machines, a single conveyor, and means by which the plates can be delivered from the finishing machine to the convevor, with means for timing the discharge of the plates from the several finishing machines so that the plates will reach the conveyor in proper sequence without intereference with each other.

1,960,767. WEB CHANGE DEVICE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application September 9, 1930, Serial No. 480,677. Renewed April 30, 1932. 6 Claims. (Cl. 242 — 58.)

1. In a web replenishing device, the combination of a frame mounted to swing on a vertical axis, means carried by the frame for pressing a web against the new web roll, a source of power, a vertical member connected to be turned forwardly or backwardly by the source of power, a web roll propelling device for rotating the new web roll on its vertical axis, a lost motion connection operated by the member for controlling the moving of the frame toward and from the web roll, and yielding means for turning the frame toward the new web roll when the motor rotates in a direction to permit the yielding means to act.

1,960,840. APPARATUS FOR AND METHOD OF REMOVING DISTORTIONS FROM PRINTING PLATES. Richard M. Dugdale, Dedham, Mass., assignor to Farrington Manufacturing Company, Boston, Mass., a corporation of Massachusetts. Application July 17, 1931. Serial No. 551,433. 3 Claims. (Cl. 153 — 48.)

1. Apparatus for removing distortions from and imparting a reinforcing curvature to a printing plate of the class described having embossed characters thereon, comprising a die adapted to receive and hold in fixed position the printing plate, the die having a concave surface provided with a plurality of recesses arranged to receive the embossed characters on the plate while affording points of contact with the face of the plate intermediate some of its characters, a plunger having a head provided with a convex curvature and engageable with the opposite face of the plate, and means for actuating the plunger to clamp the plate between the die and head.

3. The method of removing distortions from and providing a reinforcement to a printing plate having embossed characters thereon, which comprises squeezing the printing plate

between opposed pressure members at points intermediate its embossed characters, and simultaneously imparting to the embossed surface of the plate a convex curvature sufficient to compensate for the tendency of its central portion to sag when subjected to the printing operation.

1,961,000. PAPER FOLDING MACHINE. Oscar Kleinschmit and Max Apitzsch, Leipzig-Plagwitz, Germany, assignors to Gebruder Brehmer, Leipsig-Plagwitz, Germany. Application January 12, 1933, Serial No. 651,426. In Germany January 29, 1932. 6 Claims. (Cl. 270 — 62.)

1. The method of folding sheets in continuous sequence characterized by the use of a pair of folding rollers comprising feeding the sheets in a direction parallel to the axis of the rollers and simultaneously gradually guiding each sheet towards the rollers and between the rollers.

1,961,602. FLAT BED WEB PRINTING PRESS. Leon E. La Bombard, Waltham, and Melvin H. Sidebotham, West Newton, Mass., assignors to Specialty Automatic Machine Co., Chelsea, Mass., a corporation of Massachusetts. Application March 11, 1931, Serial No. 521,652. 5 Claims. (Cl. 101 — 294.)

2. In a printing press having a printing form and two oppositely facing ink-distributing plates above it, three sets of inking roll units mounted to travel past the form and plates and spaced to cause one unit to apply ink to the form while the other two units are passing over the two ink-distributing plates, and ink-distributing rolls mounted to travel over one of the ink-distributing plates alternately with the inking rolls.

5. A flat bed web printing press having mechanism for feeding the web and for operating the printing head and the ink distributor, each of the mechanisms including constantly intermeshed gearing for intermittently actuating the web feed and printing head and ink distributor at speeds starting from stationary and gradually increasing and then gradually decreasing to stationary condition.

1,961,103. AUTOMATIC BOOK MAKING MACHINE. Jesse Gannon, Winfred Elmo Reavis, and George Baker, Los Angeles, Calif., assignors to Oversewing Machine Company, Los Angeles, Calif., a corporation of California. Application February 7, 1931. Serial No. 514,182. 69 Claims. (Cl. 112 — 21.)

1. A machine for continuously making books, comprising a sewing mechanism, means for continuously feeding sections successively to the sewing mechanism, and means alternately controllable by the sewing mechanism and feeding means to control the operation of the feeding means and sewing mechanism.

18. A machine for making books automatically, comprising means for sewing signatures together, means for feeding signatures to the sewing means and means for double sewing the first and last signature of each book.

1,961,422. MECHANISM FOR AUTOMATICALLY SEVERING THE TERMINAL THREADS OF A STITCHED BOOK OR THE LIKE. Oscar Kleinschmit and Oskar Muller, Leipzig-Plagwitz, Germany, assignors to firm Gebruder Brehmer, Leipsig-Plagwitz, Germany. Application February 11, 1931. Serial No. 515,067. In Germany October 25, 1930. 22 Claims. (Cl. 112 — 252.)

1. In a book-stitching machine, in combination, a stitching needle adapted to be displaced laterally during its operative movement, a thread guide provided with a hooked extremity positioned in the lateral path of travel of the stitching needle, means for reciprocating the thread guide, means for controlling the movement of the thread guide, a thread severing member, means for engaging a thread carried by the stitching needle with the thread guide, and means for contacting the thread with the thread severing means.

1,961,633. SHEET-FEEDER AND FOLDER. Harry Ehlig, Pearl River, N. Y., assignor to Dexter Folder Company, New York, N. Y., a corporation of New York. Application November 29, 1930. Serial No. 498,950. 30 Claims. (Cl. 270 — 62.)

1. A sheet-feeder and folder unit comprising, in combination, a suction feeding-device to advance the successive sheets, a primary sheet-folding mechanism acting on the advanced sheets, a secondary sheet-folding mechanism acting on the sheets folded by the primary sheet-folding mechanism, and interchangeable means governing the suction applied to the feeding-device, in one position intermitting the suction in timed relation with the secondary sheet-folding mechanism, and in another position applying a continuous suction to the feed-ind-device to advance sheets only to the primary sheet-folding mechanism.

1,961,685. METHOD AND APPARATUS FOR SUPPLYING WEBS TO NEWSPAPER PRINTING PRESSES. Marcus M. Farley, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich., a corporation of Michigan. Application April 5, 1932, Serial No. 603,379. 15 Claims. (Cl. 242 — 58.)

2. In newspaper printing presses; means for rewinding webs from a plurality of commercial web rolls in a large super web roll sufficient to print a complete edition without having to paste webs or shift web rolls during such edition, and means for thereafter, without altering the position of the super roll feeding web continuously to the press from the super roll during the printing of such edition.

1,961,826. PRINTING PRESS FOR PRINTING WAX CARBON SPOTS ON SHEETS OF PAPER. Nelson S. Welk, Athens, Ohio, assignor to The McBee Company, Athens, Ohio, a corporation of Ohio. Application October 17, 1933, Serial No. 693,898. 3 Claims. (Cl 91 — 50.)

1. In a printing press for printing wax carbon spots on sheets of paper comprising a heated ink fountain and an ink fountain roller, power driven means to rotate the roller, an agitator arranged in the fountain and having a plurality of agitator blades extending entirely across the bottom of the fountain, a shaft paralleling the fountain, means for detachably mounting the agitator upon the shaft at a single point, the means consisting of an inverted substantially U-shaped member resting over the shaft and means to attach the U-shaped member to the shaft, means for reciprocating the shaft through the medium of the power driven means, and supporting and guiding means for the agitator.

1,961,827. ROTARY PRESS FOR PRINTING WAX CARBON SPOTS ON PAPER. George A. Rutkoskie, Athens, Ohio, assignor to The McBee Company, Athens, Ohio, a corporation of Ohio. Application January 26, 1933, Serial No. 653,601. 3 Claims. (Cl. 91 — 50.)

1. In a rotary press for printing wax carbon spots on paper, having printing and impression rollers, a plate cylinder for printing the carbon spots, and a pair of hollow contacting carbon conveying rollers positioned beneath the plate cylinder, an ink fountain for containing melted wax carbon, one of the rollers being partially immersed in the ink fountain; the ink fountain having a double wall forming a closed heating chamber, a header at each end of the ink fountain, pipes which extend through the ink fountain between the double walls thereof and connect the headers.

1,961,828. PROCESS FOR PRODUCING WAX CARBON SPOTS. George A. Rutkoskie, Athens, Ohio, assignor to The McBee Company, Athens, Ohio a corporation of Ohio. Original application April 14, 1931, Serial No. 529,908. Divided and this application June 17, 1933. Serial No. 676,292. 5 Claims. (Cl. 91 — 70.)

1. In the process of producing wax carbon spots upon sheets of paper, the steps of heating the wax carbon to a predetermined temperature; applying the melted wax carbon to a sheet of paper by means of an electrotype; providing a cushion for the paper while in contact with the electrotype; and maintaining the electrotype at a predetermined temperature.

1,961,829. PRINTING PRESS FOR PRODUCING WAX CARBON SPOTS ON SHEETS OF PAPER. George A. Rutkoskie and Nelson S. Welk, Athens, Ohio, assignors to The McBee Company, Athens, Ohio, a corporation of Ohio. Application January 18, 1933 Serial No. 652,284. 16 Claims. (Cl. 101 — 357.)

1. In a printing press having an ink fountain, an ink fountain roller, a rotating vibrating roller, a ductor roller adapted to intermittently contact the ink fountain roller and the vibrator roller, form rollers, shafts for the rollers, and mechanism for operating the press; a friction gear on the shafts of the vibrator roller, ink fountain roller and ductor roller, means to intermittently rotate the ink fountain roller in such a direction that the surface presented to the ductor roller moves in a downward direction, means to actuate the first named means, whereby the ink fountain roller will be rotating when the ductor roller contacts the ink fountain roller, means for timing the contact of the ductor roll so that the surface of the

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vibrator roller presented to the ductor roller is moving in an upward direction at the time the ductor roller contacts the vibrator roller.

1,961,927. LITHOGRAPHIC PROCESS. Donald V. Gerkins, New York, N. Y. No drawing. Application November 9, 1931. Serial No. 574,039. 3 Claims. (Cl. 95 — 5.4.)

1. The process of forming a photolithographic printing plate which comprises providing a celluloid plate coated on one side with a soft water-soluble light-sensitive silver gelatin, exposing the face of the gelatin adjacent the celluloid to light projected through a negative and through the celluloid plate to form an image-printing surface on the plate in substantially the plane of the celluloid, developing the exposed plate to render the light-affected image-printing portion insoluble, inking the coating to render the image-printing portion receptive to ink and repellent to moisture, and washing the plate to remove the soluble portion of the coating therefrom and expose the celluloid to form an ink-repelling moisture-retaining surface, whereby upon drying a lithographic printing surface is formed.

1,962,011. INKING MECHANISM. Charles W. Ginsberg Brooklyn, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application July 11, 1931, Serial No. 550,666. 8 Claims. (Cl. 101 — 350.)

1. An inking mechanism for printing presses comprising in combination an ink reservoir, an ink distributing cylinder, means for conducting ink from the reservoir to the ink distributing cylinder, and means having a concave portion closely adjacent the ink disbtributing cylinder extending around and beyond the lowermost portion of same, the means being adapted to prevent the premature escape of ink therefrom before it reaches a predetermined point.

1,962,128. SHEET CUTTING AND PRINTING MACHINE. Charles J. Beck, Philadelphia, Pa. Application October 24, 1929. Serial No. 402,024. 13 Claims. (Cl. 101 — 232.)

2. In a sheet cutting and printing machine the combination of a web cutting unit, a printing unit, means for feeding a continuous web to the cutting unit, means for positively gripping and conveying a cut sheet from the cutting unit to the printing unit, means for controlling the feeding unit to minutely govern the feeding of the web to the cutting unit, means fore removing curl from the web, and means for readily varying the curl-removing means manually while the curl-removing means remains in contact with the continuous moving web.

1,962,164. METHOD AND APPARATUS FOR REMOVING PRINTING INK FROM PAPER. Sidney D. Wells, Appleton, Wis., assignor to Lewis L. Alsted, Appleton, Wis. Application September 6, 1932. Serial No. 631,805. 18 Claims. (Cl. 92 — 11.)

1. The herein described method of de-inking printed paper which comprises nodulizing the paper, subjecting the nodulized stock to an upwardly traveling bath of de-inking fluid so that the de-inking fluid permeates the nodulized stock by diffusion to discharge the ink therefrom and then subjecting the stock to a diffusion washing to remove the de-inking fluid with the ink ingredients from the stock.

1,962,823. INTAGLIO PRINTING INK. Hans Kurz and Karl Albert, Vienna, Austria. No Drawing. Application December 27, 1932, Serial No. 649,112. In Austria December 3, 1931. 1 Claim. (Cl. 134 — 36.)

Intaglio printing ink, consisting of a binder and a pigment thoroughly mixed together, the binder consisting of a reaction product of the following approximate ingredients: 2.0 kg. of colophony, 1.6 kg. of 10 per cent potash lye with about 0.1 kg. casein, 0.24 kg. of ammonia solution having a density of 0.91, mixed with 4.0 kg. of water and 0.2 kg. of turpentine oil.

1,962,843. CASTING MACHINE. Walter J. Rudolph, Chicago, Ill., assignor to Ludlow Typograph Company, Chicago, Ill., a corporation of Illinois. Application February 26, 1932. Serial No. 595,393. 8 Claims. (Cl. 22 — 70.)

1. A mouthpiece for the outlet portion of a crucible comprising a portion adapted to form a cover for the outlet portion and containing an elongated discharge slot, portions of the inner surfaces of the walls of which flare laterally outwardly crosswise of the slot toward the inlet portion of the slot.

1,902,897. PRINTING PRESS. Edward J. Duffy and Edmond Boisseau, New York, N. Y. Application November 3. 1931. Serial No. 572,782. 15 Claims. (Cl. 101 — 365.)

1. Printing press inking mechanism including in combination means for supplying ink at a pressure proportionate to the press speed and automatic leans for absorbing pressure variations in the ink supply.

7. A printing press inking mechanism including in combination an ink-distributing cylinder, a device for supplying ink thereto, the device being divided into a plurality of major compartments longitudinally of the cylinder, each major compartment being subdivided into a plurality of minor compartments longitudinally of the cylinder, means for independently regulating the supply of ink to the various major compartments and individual means for independently regulating the supply of ink to each minor compartment.

1,962,928. WEB RENEWING MECHANISM. Hobart N. Durham, Jackson Heights, N. Y., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application September 23, 1931. Serial No. 564,493. 18 Claims. (Cl. 242 — 58.)

1. Web renewing mechanism including in combination means for rotatably supporting a running web roll and a reserve web roll and a motor having on its shaft a friction member to be moved into engagement with the reserve web roll to bring it to running speed.

1,962,938. WEB CONTROLLING MECHANISM. Charles J. Richter, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application September 23, 1931. Serial No. 564,610. 17 Claims. (Cl. 242 — 75.)

3. Web controlling mechanism including in combination a movable support for a web roll rotatably mounted by its shaft, a brake operating on the roll shaft mounted on a stationary support, and means for connecting the web roll to the brake to control the rotation of the roll.

1,962,973. LINE CASTING MACHINE. Ransom H. Turner, Auburndale, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application May 20, 1933. Serial No. 672,055. In Germany June 1, 1932. 11 Claims. (Cl. 199 — 50.)

1. In a line casting machine having a vise for holding a matrix line against a mold for casting a slug therefrom, one of the vise jaws being solid and having a casting face integral therewith and having permanently associated therewith a mark adapted to produce a corresponding mark on the cast slug as a guide for the cutting off of the slug to a desired length, means for rendering the mark on the jaw inoperative.

1,963,041. PRINTING MACHINE. True M. Avery, Glens Falls, N. Y., assigned to Union Bag & Paper Corporation, Hudson Falls, N. Y. a corporation of New Jersey. Application November 11, 1931. Serial No. 574,407. 7 Claims. (Cl. 93 — 34.)

1. Printing mecnanism for a bag-making macaine having means for feeding a traveling bag strip therein, a cut-off device for severing the bag strip into bag sections, and means for varying the speed of operation of the feeding means relatively to that of the cut-off device to produce bag sections of different lengths, comprising a printing machine having means for supplying the bag strip thereto, means for mounting therein printing rolls of different diameters to conform with variations in the speed of operation of the feeding means of the bag-making machine for producing impressions on the bag strip at intervals in its length, an impression roll to cooperate with the printing roll and provided with a driving gear, a change gear connected to and conforming with the diameter of the printing roll and meshing with the driving gear for the impression roll, and means connecting a printing roll mounted in the printing machine to the cut-off device to synchronize the operations thereof.

1,963,042. INKING MECHANISM FOR PRINTING MACHINES. True M. Avery, Glens Falls, N. Y., assignor to Union Bag & Paper Corporation, Hudson Falls, N. Y., a corporation of New Jersey. Original application November 11, 1931. Serial No. 574,407. Divided and this application April 7, 1933. Serial No. 664,993. 7 Claims. (Cl. 101 — 351.)

1. In a printing machine having a pair of printing rolls inking rolls having means supporting them to move to and from cooperative relation with the respective printing rolls, the inking rolls being relatively adjustable on their supporting means into operative relation with the respective printing rolls, and limit means capable of being set to accord with the operative relation between the inking rolls and the printing rolls to limit the movement of the inking rolls toward the printing rolls.

1,963,221. AUTOMATIC METAL FEEDER FOR TYPE-CASTING AND SLUG-CASTING MACHINES. Cecil Forest Badgley, Bozeman, Mont., assignor of one-third to Harry H. Howard and one-third to Chester C. Trescott, both of Bozeman, Mont. Application September 8, 1932, Serial No. 632,221. 10 Claims. (Cl. 22 — 80.)

1. In a typecasting machine having a movable melting pot, a flexible pig-suspending means

and an escapement mechanism cooperating therewith for lowering the pig into the pot, means for supporting the suspending means and the escapement mechanism in position over the pot, means actuated by the movement of the pot for operating the escapement mechanism, the last named means including a float carrying bracket mounted on the pot, a float lever fulcrumed on the bracket, a float connected to one end of the lever, an actuator trip bar vertically movable in bearings on the bracket and engaged with the other end of the lever, and the escapement mechanism including a trip bar actuated by the actuator trip bar.

1,963,296. MATRIX-SETTING AND TYPE-LINE-CASTING MACHINE. Julius Dorneth, Konradshohe, near Tegel, Germany, assignor to the firm Typograph G. m. b. H., Berlin Germany. Application June 16, 1933, Serial No. 676,193. In Germany July 1, 1932. 17 Claims. (C. 199 — 4.)

1. A matrix-setting and type-line-casting machine of the type having a keyboard and having matrices circulating on wires and having a collecting station and a casting station, a vertically adjustable ramp rail beneath the collecting station for the vertical positioning of the matrices to be cast, a movable slider for effecting the insertion of the matrix line set in the collecting station into the casting station, a movable line closing jaw operable after the insertion of the matrices and the starting of the machine connected therewith, a single control lever arranged near the keyboard, and independent operable connections between the lever and the ramp rail, the slider, and the jaw for effecting positively in correct sequence the individual operations.

1,963,585. LEAD FOR PRINTING PRESSES. Howard A. Kittle, Rochester, N. Y. Application December 11, 1931, Serial No. 580,332. 7 Claims. (Cl. 101 — 377.)

1. In a printing press, the combination with an impression sector revolubly mounted and a type bar frictionally held in the sector, of a lead for spacing the type bar, not connected to said sector and having projections engaging the type bar whereby the lead can not protrude beyond the type bar.

1,963,856. PRINTER'S ROLLER. Robert R. Lewis, Freeport, and Albert J. Weiss, Brooklyn, N. Y., assignors to Vulcan Proofing Company, New York, N. Y., a corporation of New York. Application August 29, 1931, Serial No. 560,240. 7 Claims. (Cl. 91 — 67.8.)

1. A printer's ink-applying roller comprising a yieldable base and a bendable and ink-resistant coating, the base being free from fabric material, the coating being a polymerized material resulting from the reaction of sulphur and an additive halogen olefin.

1,964,367. STEREOTYPE CASTING MECHANISM. Ernest James Smith, Fleet Street, London, England, assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application April 6, 1932, Serial No. 603,674. In Great Britain September 25, 1931. 9 Claims. (Cl. 22 — 4.)

1. A stereotype plate casting mechanism including in combination casting members forming a casting chamber, a heating device and an air cooling device applied to at least one of the casting members and temperature controlled means for governing the action of both the heating and air cooling devices to maintain approximately uniform temperature of the casting members.

1,964,368. STEREOTYPE CASTING MECHANISM. Ernest James Smith, Fleet Street, London, England, assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application September 3, 1932, Serial No. 631,621. In Great Britain September 25, 1931. 16 Claims. (Cl. 22 — 4.)

1. In a stereotype casting machine, the combination of a casting chamber formed between back and cover members, a plurality of heating units parallel to each other and mounted in heat-conducting relation with the members and means for energizing all of the units or only those units at the side edges of the members.

1,964,599. PHOTO-ENGRAVED PRINTING PLATE AND METHOD OF PRODUCING THE SAME. Vernon E. Royle, Paterson, N. J. Application May 28, 1932, Serial No. 614,107. 14 Claims. (Cl. 95 — 5.7.)

1. A photo-engraved printing plate having a subject etched thereon, the peripheral edge of the etched subject being of elliptical or oval form and provided with predetermined axial designations formed integral with the peripheral edge of the subject for aligning and centering the plate on a lining or routing machine.

1,964,488. PROOF PRESS. Robert O. Vandercook, Edward O. Vandercook, David D. Vandercook, and Frederick R. Vandercook, Evanston, Ill., assignors to Vandercook & Sons, Chicago, Ill., a corporation of Illinois. Application December 22, 1933, Serial No. 703,518. 5 Claims. (Cl. 101 — 272.)

1. In a printing press, a form supporting bed plate, a roll carriage, supporting and guide rails for the carriage, a printing roll journalled on the carriage, spaced apart guide structures on the carriage comprising trough shaped frames receiving the printing roll and with their legs extending upwardly at opposite sides of the roll, the guide structures serving to receive and align a sheet with its lower end extended part way around the printing roll and for progressive application of the sheet to the printing form along the printing or pressure line of the roll and for holding the ends of the sheet at opposite sides of the printing line away from the printing form as the sheet travels and is guided through the guide structure during such printing operation.

1,964,498. SHEET FEEDING DEVICE. Ernest J. Brasseur, Chicago, Ill., assignor to A. B. Dick Company, Chicago, Ill., a corporation of Illinois. Application October 30, 1931, Serial No. 572,105. 16 Claims. (Cl. 271 — 42.)

1. In a sheet feeding device for rotary printing machines, a feed table, a feed yoke having parallel arms pivotally mounted on the machine at the sides of the table, a yoke shaft pivotally mounted in the ends of the arms and extending across and above the table, a cam arm, a lever arm secured to the yoke shaft and adapted to be actuated by the cam arm, a connecting rod to oscillate the feed yoke and to actuate the cam arm from and in timed relation to the machine, and a feed shoe connected to the yoke shaft.

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The American Institute of Graphic Arts has assumed and will carry on the program of printing education which has been dropped by the United Typothetae of America. The Typothetae has been made National Code Authority for the commercial relief printing industry. Under its new duties no provision was made for continued support of this work.

Harry L. Gage, president of the A. I. G. A., at the Thirteenth Annual Conference on Printing Education held in Detroit, June 18-20, made announcement of the taking over of this educational work by the Institute.

It is the present plan to carry on this additional work through extending the scope of the Institute, and to finance it by increasing the membership among both individuals and companies, through sustaining memberships and endowments where possible from among the numerous friends and supporters of printing education and those directly interested in the progress of the graphic arts.

In order to extend the influence of the Institute and to help in bringing about closer cooperation with schools having classes in any of the graphic arts subjects, the Institute has made provision for a new membership classification to be known as School Memberships. Under this classification, admission to membership will be open to those engaged as instructors in recognized schools maintaining classes in fine and graphic arts subjects, also to advanced students in any such schools.

Fred J. Hartman, U. T. A. Department of Education director, has taken up the work as director of education with the Institute. Harry Hillman, formerly editor and business manager of the *Typothetae Bulletin*, and former editor of the *Inland Printer*, has agreed to join Mr. Hartman in the capacity of director of publications and promotional manager. Offices will be established by the Institute in a suitable location in New York, New York.

The work of the Typothetate Department of Education over a period of approximately twenty-five years, includes supervision of the publication of textbooks and other technical works; cooperation with the Department of Printing at Carnegie Institute of Technology which is the college for printers in the national program of printing education; cooperation with trade and vocational schools and trade high schools, giving advice and counsel in relation with the industry, the placing of teachers, and general guidance; cooperation with public school printing departments; publication of the magazine known as *Printing Education*, which goes every other month to some fourteen to fifteen hundred teachers of printing and a thousand or more supervisors of industrial education; the promotion of printing as an active interest among educational societies, particularly in connection with programs for national or sectional conventions.

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☐ *Bulletin*—Rapid Methods for the Determination of Bleached and Unbleached Fibers in Pulp and Paper, based on research conducted by the Division of Tests and Technical Control of the U. S. Government Printing Office.

☐ *Pulp Made Where the Wood Grows*—Illustrated bulletin showing various steps in the paper-making process. This is the No. 2 of a series of eleven books describing the making of coated paper.

☐ *The New Multiform "Do-More" Saw-Trim Planer*—Illustrated folder describing ad alley model and the various operations which may be performed with this machine.

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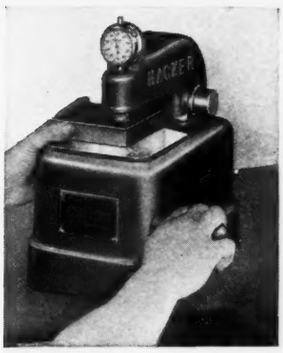
City_____ State_____

LINOTYPE-INTERTYPE MOTOR PINIONS
Complete Stock for All Motor Drive, Obsolete Drive, etc.
Any Kind of Pinions Made Per Sample
WILLIAM REID & CO.
537 SO. LA SALLE STREET CHICAGO, ILLINOIS



How High?

It was intended to be type high, probably. But who knows what it is without a gauge measurement?

If it was a little over or it was a little under, or if it was uneven, it was certain to cause press makeready.

Why wait for the pressroom to find that out, and then waste valuable time correcting the error by press makeready? Why not find it out ahead of time and correct it ahead of time?

Any program of controlling the height of blocked plates depends upon accurate measurement with Hacker Plate Gauges. Send for catalog.

HACKER MANUFACTURING CO.
320 SOUTH HONORE STREET CHICAGO

DROSS
DROSS
DROSS

It robs your metal and shows you a loss

A DRUM of dross is not so much waste recovered! It is just that much life blood cooked out of your metal. The reason it has value is that there is good metal, high in tin, to be redeemed. Every pound of dross costs you money and leaves your metal supply poorer. Read the booklet "Metal—A Study in Operating Economy"—it contains suggestions that will point the way to new profits.

Your copy of METAL is FREE—clip here

Monomelt Co., PE-8
1651 Polk St., N. E.,
Minneapolis, Minn.

Kindly send us your booklet "Metal—A Study in Operating Economy." We are interested in reducing metal costs.

Firm_____

Individual_____

Address_____

• CLEAR
• CLEAN
• ACCURATE

Morley Mats are consistent performers. They deliver one-hundred percent in satisfaction — halftones . . . electros . . . type forms. Easy moulding . . . deep, sharp impressions with minimum moulding pressure that will not break down type and prolongs the life of your moulding blanket.

MORLEY
better
MATS

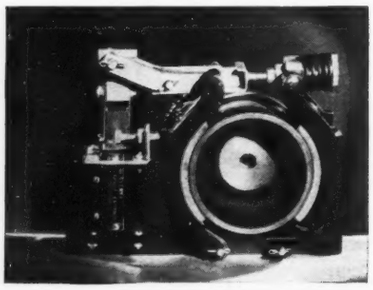
Write for FREE Sample

Morley Button Manufacturing Company
Portsmouth, New Hampshire
New York Office: 46 East 11th Street

New Small Electric Brakes

A new line of small a.c. and d.c. solenoid operated brakes is announced by Cutler-Hammer, Inc., Milwaukee, Wisconsin. Three new brake sizes are included with torque ratings ranging from 3 lbs. feet to 75 lbs. feet.

The brake wheel is relatively large, allowing low total brake shoe pressures, which, distributed over the large brake lining area, results in low unit pressure on the lining and therefore long, even wear of the friction surfaces. The low shoe pressure also results in low stresses on all pins and pivot points, assuring longer wear for these parts, and allows the use of a small operating solenoid which requires less current to effect a slight saving in operating costs of the brake.



Solenoid operated brake for application to printing presses and other printing plant mechanisms.

Dimensions of the a.c. and d.c. brakes are interchangeable, so that machine designers can provide standard mounting holes and apply either the a.c. or d.c. brake as needed. Brake shoes use moulded brake lining and provide 180 deg. braking service.

These new brakes are intended for applications on machine tools, conveyors, small hoists, small elevators, printing presses and similar small machines where quick, sure stops are required. Descriptive Bulletin No. 511 can be obtained from the manufacturer.

Bird Joins Printing Machinery Company

The appointment of Sidney S. Bird to the sales force of the Printing Machinery Company, Cincinnati, Ohio, has been announced by H. T. Simpson, President of the company.

Mr. Bird is a graduate of Olivet College, Olivet, Michigan. In Mr. Simpson's announcement it was stated that Mr. Bird will work out of the Cincinnati Office and sell the company's complete line of metal base, Vee-Slot Hooks and Aluminum Alloy Metal Furniture.

Air Express Saves Delay for Printer

High-speed delivery of heavy machinery parts by air express enabled a Tulsa (Okla.) printing firm (Scott-Rice Co.) to avoid heavy loss when a large press broke down recently. A phone call to the manufacturer (Harris-Seybold-Potter Co.) of the needed parts started the shipment of 91 lbs. on its way from Cleveland, aboard a plane as Railway Express Agency air express. The break-down occurred at 1 p. m. Immediately workmen prepared the press to receive the new parts. At 8:30 the following morning the air consignment was received and at once installed and the presses started in operation.

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PRINTING EQUIPMENT ENGINEER	Inside Back Cover

HANGING UP A RECORD

The June Printing EQUIPMENT Engineer carried 54 pages of equipment and supply advertising, exclusive of paper. This is the largest volume of this type of advertising that has appeared in any one issue of any publication in the industry this year.

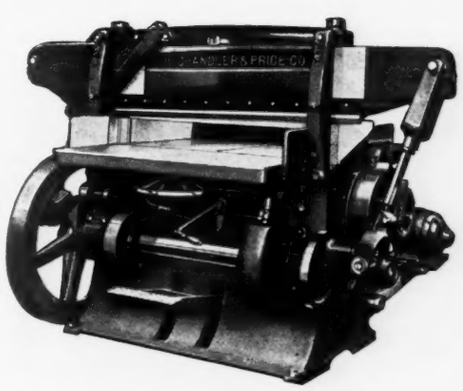
Printing EQUIPMENT Engineer can serve you best because it reaches the mechanical and production executives of the daily newspapers, as well as leading commercial, magazine and private plants. These men are the purchase-origin of equipment and supplies. Here are facts worth thinking about when considering your fall advertising.

PRINTING EQUIPMENT ENGINEER
1370 Ontario Street **Cleveland, Ohio**

Chandler & Price **AUTOMATIC PAPER CUTTERS**

Offering many exclusive features providing greater cutting accuracy, speed and ease in operation. One-piece rigid frame; knife *pulled*, not pushed, through stock; binder friction adjustment accessible at side of cutter; positive brake and clutch; back-gauge lock takes up its own wear; controls conveniently grouped at operator's hand; safety starting eliminates any chance for "repeats;" knife can be stopped and started at any point in its travel.

Built in 39", 44" and 50" sizes; ask your C & P dealer or the nearest C & P office for descriptive bulletin and specifications.



THE CHANDLER & PRICE COMPANY, CLEVELAND, OHIO

Branch Offices and Display Rooms: New York: Grand Central Palace, 480 Lexington Ave. *Chicago:* Transportation Building, 608 S. Dearborn St.

MIXES ANY TWO SIZES

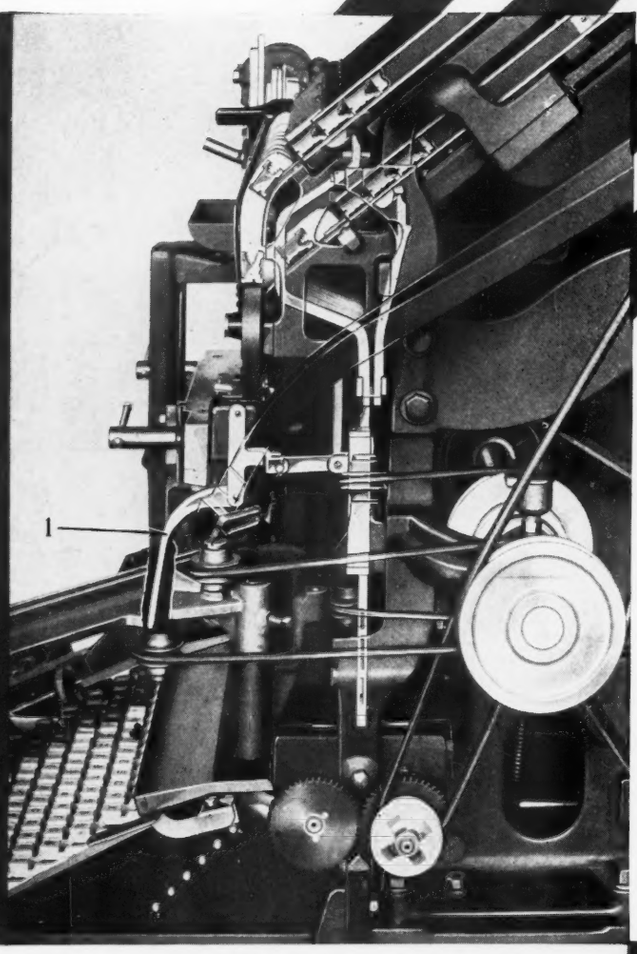
BODY TEXT and CAPTIONS

BOLD ITALIC with LIGHT ITALIC

BOLD ROMAN with LIGHT ROMAN

MIXED COMPOSITION

NOW POSSIBLE AT STRAIGHT-MATTER SPEED



Set Two Faces
as Fast as One on the

INTERTYPE MODEL F MIXER

By means of the light-touch lever (1) the operator changes INSTANTLY from one face—or size—of type to another. Note the short drop of the matrices from the magazine to the matrix delivery belt. This short drop is one reason why the Model F Mixer is as fast as any other Intertype.

ANY TWO SIZES OF TY
OR ANY FOUR STYLE
FROM ONE KEYBOA
Without Magazine Chang
THE CHANGE FROM ONE FA
TO ANOTHER IS AS SIM
AS THE FLIP OF A FING

INTERTYPE CORPORATION
360 FURMAN STREET, BROOKLYN, NEW YORK
Chicago • New Orleans • San Francisco • Los Angeles • Boston